APPENDIX C

SORP

Sewer Overflow Response Plan

Submitted to EPA May 4, 2007

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering such information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Hal Balthrop, P.E.

May 3, 2007
Date

Executive Summary
MWS's Sewer Overflow Response Plan

The Sewer Overflow Response Plan (SORP) outlines the actions MWS will take to reduce the impact of sanitary sewer overflows (SSOs) on our customers and the environment as well as to comply with regulatory requirements.

1. Staff Communication and Duties

To ensure that MWS is made aware of each SSO as expeditiously as possible, there are several methods by which SSOs will be identified. The most common and effective notification comes from individuals who witness the event and call MWS's Customer Service Center (CSC). CSC representatives take reports ranging from manhole overflows to sewage on private property. MWS employees/field crews, city employees, 911, or other agencies may also report SSOs to the CSC Dispatch. Some calls originate in the Control Room at the Omohundro Water Treatment Plant as a result of the Department's Supervisory Control and Data Acquisition System (SCADA). Automated systems, such as ADS flow monitors with Intelliserve and Data Acquisition System (SCADA) at pumping facilities, alert MWS that an investigation is warranted. The processes by which SSOs are reported and the actions generated from a report of an overflow are detailed in Sections 4.1, 4.2, and 4.3.1. The responsibilities of MWS employees charged with responding to SSOs are outlined in Sections 3.3-3.6.

2. Prompt Response to SSOs

MWS will make all reasonable efforts to respond to an SSO with qualified and equipped personnel within sixty (60) minutes of being notified (Section 4.2). Allowances will be made to ensure that the safety of the Responder and the public is the first priority. Records of all SSO responses, including response times, will be maintained (Sections 3.4, 4.3.1, 4.6, and 4.10). The details pertaining to MWS's response to SSOs will be stored in a database that will be used for reporting and to analyze MWS's performance. A log of building backups will be maintained in a database separate from other SSOs (Section 2.3).

3. Assessment of Cause and Impact

An important first step is the identification of the cause of an SSO (Section 4.3.2). The various causes will determine the type of mitigation or remediation that is most appropriate. Wet weather overflows are usually caused by inflow and infiltration (I/I), while dry weather overflows may result from blockages caused by roots, debris, grease or a combination of some or all. SSOs occurring during rain events are not in themselves considered wet weather events. When evaluating the potential impact of an SSO on public health and the environment, sensitivity factors will be identified. These factors will determine the level of public notification and clean up activity required. These sensitivity factors may include:

- Streams, creeks, and other natural waterways
- Heavy pedestrian areas
- Special facilities to include schools, public parks, walking trails, etc.

The process by which MWS will assess if an SSO has had any adverse impact on human health or the environment is described in Sections 4.3.5, 4.3.6, and 4.3.9. If a backup has occurred on private

property, MWS will respond to backups in accordance with the SORP. MWS will conduct an investigation to determine if the cause is a problem in the MWS system or is a result of a failure on the customer's side (considered private trouble). The process a property owner will follow to dispute the determination that a building backup is caused by a failure in their private lateral is outlined in Section 4.3.2.

4. Elimination of Cause and Mitigation of Impact

Once the cause of an SSO has been identified, the proper type of remediation can be chosen. Section 4.3.11 summarizes common abatement resolution activities and repairs that can be used independently or combined based on field conditions and television inspection. The MWS resources, including personnel and equipment needed and available to perform these activities and repairs, are listed in Sections 3.5, 3.6 and 3.8 .When possible, flow diversion techniques provide an effective means of conveying the overflow back into the sewer system. This procedure reduces additional potential impact on the immediate area and the possible impact downstream. Flow diversion techniques employed by MWS when practicable are listed in Section 4.3.10. Control zones will be established for every SSO to help prevent public access around the perimeter of the affected surface area using appropriate signs and barricading practices (Section 4.3.6). Other methods for minimizing human contact with overflows can be found in Sections 4.3.9, 4.3.10, 4.3.12, and 4.4. Standard containment procedures for typical SSOs can be found in Section 4.3.9.

5. Clean up of SSOs

After an overflow has occurred, MWS's clean up of the impacted area will be thorough and comprehensive. General practices, depending on the individual situation, are outlined in Section 4.3.12. To minimize any further impact on human health or the environment, follow-up inspections and root cause analyses will be performed to identify the specific cause of the overflow. Methods for determining the causes of SSOs may include television inspection, smoke testing, visual inspection, etc. (Section 4.3.13). If a building backup is found to be caused by a collection system failure on the public main, MWS notifies Metro Nashville Legal Claims to dispatch an independent cleaning and restoration contractor to assist in cleaning, sanitizing, and repairing damage (Section 4.3.2). If a building backup is found to be caused by a service lateral failure, the customer will be advised that the public collection system is functional and that they may need to seek the services of a third party agent (plumber) to remedy the problem. If efforts on the part of the customer to remedy their service lateral failure is unsuccessful, MWS will perform any investigatory and corrective work on portions of the customer's service lateral that are inside the right-of-way or easement. Residential customers will not be charged for this service. Commercial customers will be charged the actual cost of this service at no profit.

6. Routine Reports to the Public

MWS will provide an initial notice to TDEC of an SSO within twenty-four (24) hours of the time it becomes aware of an SSO, as required by NPDES permits. The complete reporting process that includes the Immediate, Final, and Monthly Overflow Reports by which MWS notifies TDEC is summarized in Sections 4.2 and 4.5. MWS will post a monthly summary of each SSO (excluding building backups) on MWS's Web site.

MWS' Sewer Overflow Response Plan (SORP)

1. **Utility-Specific**
   Based on the needs of our service area and customer base, MWS has developed this Sewer Overflow Response Plan (SORP) to serve as a guide to provide an efficiently maintained and operated sanitary sewer system and to reduce the negative impact on the environment and hazards to public health.

2. **Purposeful**
   This program will reduce the potential negative impact of SSOs on public health and the environment through the implementation of a systematic response to overflows. This program:
   - Supports customer service
   - Standardizes reporting procedures
   - Establishes system performance goals
   - Protects system assets
   - Protects public health
   - Protects water quality

3. **Goal-Oriented**
   MWS developed this SORP to reduce the impact of SSOs for our customers and the environment and to comply with regulatory requirements. It provides structured guidance for response to overflows, including a range of appropriate and effective field activities MWS can choose from to meet the needs of each situation. MWS will use its discretion and best professional judgment to evaluate each event and choose the appropriate remediation tools.

4. **Uses Performance Measures**
   To measure the performance of the "respond to wastewater trouble" process, MWS will track performance indicators including, but not limited to the following:
   - Response time from notification to arrival of a qualified and equipped First Responder on site
   - Quality of response
   - Safety of personnel and equipment during wastewater service response

5. **Periodically Evaluated**
   MWS will review the SORP annually and amend it as appropriate. The review will include, at a minimum, the following activities:
   - Conduct workshop with managers and key personnel to review response activities and gather suggestions for new or revised procedures
   - Review all contact lists and update as necessary.

MWS' Sewer Overflow Response Plan (SORP), cont.

6. **Available in Writing**
   Hard copies and/or electronic versions of the SORP and any amendments will be distributed to any employee involved in responding to an overflow.

7. **Implemented by Trained Personnel**
   MWS personnel will conduct training for the appropriate response crews and support staff to ensure their understanding and proper execution of the SORP. Training sessions will be supplemented with a practical hands-on field component to ensure all response personnel are prepared for anticipated situations. Also, MWS will conduct refresher sessions annually or when changes are made to the SORP to ensure the same results. Maintenance Managers and Supervisors will oversee the SORP to ensure that the established procedures are being followed during implementation and field operation.

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Section 1

1.0 Definitions

This section is designed to help familiarize readers with common terms and acronyms used in this report. It includes basic definitions of a sanitary sewer system and sanitary sewer overflows, for example, which will give readers an overview to help understand the following sections.

1.1 General Definitions

Basin: Basins are small portions of the sanitary sewer system separated by boundaries of natural topography or system configuration (i.e. pumping stations). Separating the system into basins allows MWS to better identify and monitor system performance in those smaller areas.

Building Backup: A building backup means a wastewater backup into a building that is caused by blockages, malfunctions, or flow conditions in the collection system. A wastewater backup into a building that is caused by a blockage or other malfunction of a private lateral (service line) is not a Building Backup.

Catchbasin: an open to the surface structure used to collect surface run-off including rain and surface waters. This structure is connected to a gravity piping system or mechanically pumped facility used to transport to discharge locations.

Closed-Circuit Television (CCTV): MWS uses closed-circuit television to visually inspect the internal condition of pipes and sub-surface structures.

Combined Sewer Overflow (CSO): An overflow of combined storm and sanitary sewer in MWS' 450 miles of combined sewer system (downtown).

Combined Sewer System (CSS): A sewer collection system that collects both storm and sanitary sewers in the same pipe. MWS' CSS enables collected sanitary and stormwater flows to be transported and treated at the POTW (Publicly Owned Treatment Works). In heavy rainfalls, MWS' CSS may result in overflow causing a CSO.

Control Room: MWS's Control Room is an operating center at the Omohundro Water Treatment Plant that monitors pumping station, reservoir and other infrastructure monitoring devices for operating status. Controls and alarms throughout the system alert the Control Room of any anomalies that result in investigation and correction. The Control Room interfaces with Route Service, Sewer Maintenance, CSC Dispatch and other managerial and supervisory personnel in the notification of system issues. The Control Room is staffed 24/7/365.

Customer Service Center (CSC): MWS's Customer Service Center handles requests for emergency service including but not limited to outage or overflow reports, etc.

Computerized Maintenance and Management System (CMMS): The Collection Maintenance and Management System maintains records of assets including physical

properties and any maintenance and repair records. It also generates work orders and facilitates workflow to other systems, such as MDS (Mobile Dispatch System), or between departments.

Customer Information System (CIS): The Customer Information System maintains records of account numbers, premise details, and other customer information. It also generates work orders and facilitates workflow to other systems, such as MDS (Mobile Dispatch System), or between departments.

Cleanout: A cleanout is a vertical pipe with a removable cap extending from a private service lateral to the surface of the ground. It is used for access to the private service lateral for inspection and maintenance.

Collection System: The network of pipes, manholes, and associated equipment that transports wastewater from homes and businesses to the treatment plant is referred to as the collection system.

Combination Cleaners: Combination cleaners are mechanical equipment with flushing and suction capabilities. This equipment is used to clear or collect wastewater and related debris from the sanitary sewer system.

Control Room: MWS' 24/7/365 manned operations center that utilizes remote communications including SCADA to monitor and report the status of all the departments, water and wastewater pumping stations, water reservoirs and critical sewer flow monitored sites.

Disruption of Service: A disruption of service is an interruption in customers' sanitary sewer service due to various reasons, such as blockages, pipe failures, etc.

Dry Weather SSO: An overflow of untreated sewage from a sanitary sewer system due to flow restrictions or system disruptions. **[See Section 1.2]**

Environmental Protection Agency (EPA): United States Environmental Protection Agency.

First Responder: Typically a designated sewer maintenance employee, or, any qualified MWS employee who assumes initial responsibility for an SSO event.

Force Mains: A pressurized line that conveys wastewater from a pump station.

FROG: Fats, Roots, Oils and Grease are components that affect collection system performance and are a source of system discharges. MWS has a dedicated FOG Program that manages, tracks and reports on all related activities. The "R" of FROG is in stages of further development to be more comprehensive and include private lateral contribution to this system problem.

Full Time Equivalent (FTE): An employee working at least forty (40) hours per week and

receives full benefits.

Gravity or Main Lines: Gravity or main lines represent the largest portion of the MWS system. They use changes in elevation to transport sewage between points.

Inflow and Infiltration (I/I): extraneous surface or ground water that enters the sanitary sewer.

Impacted Areas: Impacted areas are sites where sanitary sewage has collected or areas that have been affected as the result of an overflow from the sanitary sewer system.

Infiltration: Infiltration is the introduction of groundwater into a sanitary sewer system through cracks, pipe joints, manholes, or other system leaks.

Inflow: Inflow is the introduction of extraneous water into a sanitary sewer system by direct or inadvertent connections with storm water infrastructure, such as gutters and roof drains, uncapped cleanouts, and cross-connections with storm drains.

Interactive Voice Response (IVR): MWS's automated Interactive Voice Response system, which gives callers to the Customer Service Center various options to direct their calls appropriately. It also enables out-bound calls to customers affected by collection system problems such as grease, roots, and/or debris that is not acceptable in sanitary sewer collection systems.

Nashville - Davidson County - Metro Water Services (MWS) Geographic Information System (GIS): The GIS is an automated mapping and geographic information system created, owned, and funded by the City of Nashville, Davidson County, and MWS. The GIS maintains digital geographic data for all of Davidson County, Tennessee. Some of the core mapping information, including topography and aerial photography, are managed by Metro Planning Commission, while other map "layers," such as property, utility information, and address data, are maintained by the respective Metro Nashville departments.

MWS: Metro Water Services.

Lift or Pump Station: A lift or pump station is a mechanical method of conveying wastewater to higher elevations.

Manhole: A manhole provides a connection point for gravity lines, private service laterals, or force mains, as well as an access point for maintenance and repair activities.

Mobile Workfoce Management System (MWM): MWM is a workforce management system that includes desktop management for dispatchers, schedulers and GPS for crew location. MDS uses 800 MHz radio systems to transmit field orders directly to field crews through laptop computers located in various MWS vehicles to reduce response time. Field activity is then entered by the field respondent and uploaded into the CIS and CMMS as the field order is completed.

National Pollutions Discharge Elimination System Section (NPDES Section): MWS has established and utilizes a NPDES Section of its Stormwater Division that assists in the investigation, remediation and public notification of any sewer overflows within the Nashville Davidson County watershed.

Overflow Abatement Program (OAP): The Overflow Abatement Program consists of system assessment, capital improvement projects, maintenance programs, operational standards, and emergency response. MWS began the OAP in 1990. The first steps in the program (upgrading treatment plants, pumping stations and reducing the number of Separated Sewer Overflows (SSOs) and Combined Sewer Overflows (CSOs)) have been completed, and the focus now is on continuing to upgrade and maintain the collection system further eliminating SSOs and CSOs.

Overflow: An overflow is any release of treated or untreated wastewater (including that combined with rainfall induced by infiltration and inflow, or I/I) from a sanitary sewer system.

Private Service Lateral: Private sewer lateral shall mean that portion of a sanitary sewer pipe, which is not owned or operated by MWS, that extends from a structure to the point at which such pipe connects to the MWS collection system.

Public System: Public system refers to MWS's sanitary sewer system, excluding private service laterals and connections with private systems.

Sanitary Sewer Overflow (SSO): SSO shall mean an overflow, spill, or release of wastewater from the separated sewer system, including: (a) all Unpermitted Discharges; or (b) overflows, spills, or releases of wastewater that may not have reached waters of the United States or the State; and (c) all Building Backups excluding those caused by private service lateral failure.

Sanitary Sewer System: A sanitary sewer system collects, conveys, and treats residential, commercial, and industrial wastewater through a complex network of infrastructure that includes these components:

- Private-service laterals
- Gravity or main lines
- Manholes, catchbasins or junction boxes
- Sewer lift or pump stations
- Force mains
- Treatment plants.

Sanitary Sewer Overflow Response Plan (SORP): MWS's Sewer Overflow Response Plan provides structured guidance, including a range of field activities to choose from, for a uniform response to overflows.

Sewer Maintenance (SM): Sewer Maintenance focuses specifically on collection system issues. SM team members have diverse backgrounds, including collection system operations,

engineering, process improvement, and communications. In certain locations within this document, SM may include collection system sewer maintenance performed out of the System Services Division and pumping station sewer maintenance performed out of the Operations Division.

Supervisory Control and Data Acquisition System (SCADA): SCADA is automated sensory control equipment that monitors the operation of the pump stations. The SCADA system will convey alarms when predetermined conditions occur. Monitoring parameters include, but are not limited to, power failures, high wet well levels, pump failures and high pipe depths that could potentially cause overflows.

Suspicious Substance: Any material not normally found in a wastewater system, including, but not limited to, caustic substances.

TDEC: Tennessee Department of Environment and Conservation.

Unpermitted Overflow: An overflow of pollutants from any location within the treatment works which reaches waters of the United States or the State, and which is not authorized by an NPDES Permit, including but not limited to any SSO which reaches waters of the United States or State.

Waters of the State: Waters of the State shall have the same meaning as "Waters" defined at TCA § 69-3-103 (33).

Wet Weather SSO or CSO: A discharge of untreated sewage from a sanitary sewer system due to excessive flows during rain events or elevated ground and surface water conditions. **[See Section 1.2]**

1.2 Types of Overflows

Sanitary sewer overflow is an encompassing term to describe the overflow of sewage from a sanitary sewer system anywhere except at a permitted overflow point. This SORP is developed to address the two fundamental types of SSOs:

- **Wet Weather Overflows**
  Wet weather overflows result from excessive flows during significant rain events or elevated ground and surface water conditions. They can be attributed to a number of factors, including, but not limited to, the following:
  - Downspouts
  - Footing drains
  - Sump pumps
  - Infiltration
  - Flooding from the stormwater system

- **Dry Weather Overflows**
  Overflows during dry weather are most often caused by flow restrictions or system disruptions. Dry weather SSOs can be attributed to a number of factors including, but not limited to, the following:
  - Bottlenecks and/or blockages
  - Grease
  - Roots
  - Debris
  - Mechanical failures
  - System overloads
  - Sewer breaks
  - Treatment facility malfunctions and/or overloads.

The SORP Goals (Section 4.0) discuss the type, location, destination, cause, impact, and containment and remediation requirements of SSOs, as well as prevention measures.

Section 2

2.0 Process Overview

MWS continues to work to provide an efficiently designed, maintained, and operated sanitary sewer system to safely collect and convey sewage to a wastewater treatment plant for appropriate treatment and discharge.

An SSO occurs when sewage escapes from the sanitary sewer system anywhere other than at an approved discharge point. An SSO can result from flow restrictions or system disruptions, or it may also result from excessive flows caused by elevated ground and surface water during significant rain events.

MWS developed this SORP to reduce the impact of SSOs for our customers and the environment and to comply with regulatory requirements. It provides structured guidance for response to overflows, including a range of appropriate and effective field activities MWS can choose from to meet the needs of each situation. MWS will use its discretion and best professional judgment to evaluate each event and choose the appropriate remediation tools and any needed long-term corrective action.

2.1 Process Objective

MWS's response to an SSO begins when a customer, MWS employee, internal automated system, or outside party reports a possible overflow. The SORP is intended to

- Protect public health and the environment
- Satisfy regulatory agencies and discharge permit conditions that require procedures for managing sewer overflows.

2.2 Scope and Summary

The SORP entails a series of steps or procedures that begins with a report of a possible SSO in the MWS system. The notification initiates a series of protocols to confirm the report, reduce the impact on the environment, report the occurrence to the appropriate individuals and agencies, and track the occurrence to help reduce or eliminate further incidents.

These are the key components of MWS' SORP:

- Receive, record, and dispatch calls in response to notification of a possible SSO
- Monitoring known wet weather active and watch list locations for overflow activity
- Assess the reported occurrence
- Determine if the cause of the SSO falls under MWS's area of responsibility or is a private lateral issue
- Contain the overflow, when practicable, to reduce any further negative impact
- Resolve system disruption
- Advise customers if the overflow is due to a problem on their property
- Implement appropriate notification procedures
- Track SSO occurrences
- Establish procedures to assess adverse impact to human health and the environment
- Develop and implement system improvements.

2.3 Assumptions and Limitations

MWS initiates the SORP promptly after notification of a possible SSO from a customer, passerby, emergency agency, or other individual or entity through the Customer Service Center Dispatch or when

alerted directly through Supervisory Control and Data Acquisition System (SCADA).

MWS' CSC is the primary contact for customers who have utility questions or need to report problems with their service, such as wastewater trouble. The CSC Dispatch is staffed 24-hours a day, seven days a week. CSC personnel receive customer calls and enter the information regarding the customer request or concern into the Customer Information System (CIS) and/or CMMS. MWS Control Room, utilizing SCADA, may also initiated needed field response. Any wastewater trouble calls are immediately transmitted to First Responder to initiate the SORP field response. [Refer to Section 4.1 for additional details of this process.]

Once dispatched, the process may vary depending on these factors:

- Determination of responsibility
  - MWS's wastewater system
  - Customer's private lines
- Location of SSO
- Potential impact on health and the environment.
  When evaluating the potential impact of an SSO on public health and the environment, sensitive factors will be identified. These factors will determine if additional response activities are required and whether to consult with regulatory assistance agencies.

  Sensitive factors include, but are not limited to
  - Streams, creeks, and other natural waterways
  - Accessibility to highly populated areas
  - Special facilities including schools, public parks, walking trails, etc.

  A backup caused by failure in the customer's private system is referred to internally as "private trouble." If MWS identifies the problem is on the private portion of the system, the customer is notified. In these situations, the customer (often through a plumber) is responsible for any repair or clean up required. If the customer's effort to correct the problem are not successful and are inside the public easement or right-of-way, MWS will assist in performing any needed corrective action. This is reflected in the Metro Nashville Davidson County Code which states:

  > 15.40.020 Regulation and enforcement--Authority of director.
  > The director is authorized and directed to promulgate and enforce such rules and regulations as he may deem necessary for the enforcement of this chapter and for the safe, economical and efficient management, control and protection of the government's public sanitary sewerage system.
  >
  > 15.40.050 Maintenance of service connection--Owner's and Department's responsibility.
  > A. The Owner will own and maintain his sewer service line from the public sewer main to the structure served.
  > B. If the Owner experiences sewer service interruption as a result of a sewer service line failure and has demonstrated a good faith effort to remedy the problem, the Department shall make any necessary repair on the portion of sewer service line inside the public right-of-way or easement from the main to the boundary of right-of-way or easement. Provided, however, that before the Department will make such repairs, the Owner must provide an excavated clear and open access to the sewer service line at the right-of-way or easement boundary. Residential customers will not be billed for any repair performed by the Department under this Section. Commercial customers shall pay all costs of repair incurred by the Department under this Section and such costs shall be billed on the customer's next bill.

MWS will provide the same level of response to a building backup as prescribed for an SSO in the SORP. If a problem in MWS's system causes a backup into a building, MWS notifies its Claims Department immediately to coordinate communication with the customer and contract for any necessary clean up. MWS maintains emergency contracts with contractors and cleaning agencies that are equipped to address damage caused by the backup.

For backup emergencies, MWS personnel can contact the Claims Department staff on shift or on-call through the weekly generated emergency contact list. This list of contacts includes all personnel involved in emergency response including but not limited to repair, water quality (NPDES), laboratory (sampling), claims, etc. Refer to Section 4.3.2 for additional clarification of MWS's process for determining the cause of building backups.

MWS is a steward of the environment, and the first priority at an overflow is containing the overflow to minimize possible harmful impacts to the environment and public health to the extent reasonably possible. If the cause of the disruption of service and ultimately the SSO is found to be a private issue, then MWS representatives will notify the appropriate parties. Under those circumstances, MWS is not responsible for remediation although assistance may be offered in accordance with our Sewer Service Line Policy.

Section 3

3.0 System and Organizational Structures

Implementing the SORP requires these types of coordination among several MWS divisions and sections:

- Effective and timely communication
- Well-trained and experienced responders
- Structured and concise response procedures
- Accurate and comprehensive monitoring procedures
- Continuous and annually scheduled re-evaluations of the plan.

3.1 MWS Wastewater System

Today, MWS's wastewater system serves more than 171,000 customers in a 533-square-mile service area.

The system is composed of:

- 2759 miles of main lines
- 77,090 manholes
- 142.2 miles of force main
- 101 pump stations
- 3 wastewater treatment plants.

3.2 MWS Operational and Functional Structure

MWS is a multifaceted organization with a systematic organizational structure in place to provide wastewater service, as well as water and stormwater services. The Sewer Maintenance Section of the System Services Division (SSD) performs all scheduled and emergency maintenance on the collection system piping network. The Operations Division's Route Services Section performs all scheduled and emergency maintenance and repair of the system's 101 sewer pumping stations. All work activities are recorded in the department's CMMS.

Execution and enforcement of the SORP includes professionals throughout MWS with backgrounds in engineering, wastewater collection system operations, process improvement, and communications.

Figure 1: MWS Organizational Structure

3.3 Resources for Customer Inquiries

MWS's CSC receives, records, and initiates response to customer inquiries or concerns through a dedicated phone number: (615) 862-4600, option 1, option 3.

Currently, 24 representatives are employed in the CSC that may have responsibility of receiving, dispatching and documenting collection system emergencies and/or complaints. Approximately 12 of the representatives provide around-the-clock customer service seven days a week in the Dispatch Section answering customer complaint calls and interfacing with field operations personnel. CSC representatives take reports ranging from manhole overflows to sewage on private property.

CSC enters customers' trouble calls into CMMS, which translates it into a field activity. Beginning July 2007, this will be interfaced through MWS' MWM.

3.4 Resources for Responding to SSO

The CSC Dispatch and Operation's Control Room provides dispatching function 24 hours a day, seven days a week. These groups receive field requests from customers, employees or other notification systems, such as the SCADA system, and dispatches wastewater trouble orders to the appropriate MWS responder crew.

Nextel direct talk enables field communication to the First Responder to initiate the field component of the SORP. CMMS tracks the orders a crew has worked, the time spent on the event, and the resolution of the wastewater trouble. Beginning in July 2007, MWM will be utilized to monitor all such activity from initial complaint through resolution. Global Positioning System (GPS) tracking will also provide dispatchers with crew locations.

Dispatch and the Control Room not only dispatch orders but also serve as a resource to field crews. They can obtain additional assistance from other crews to mitigate or clean up an SSO, as well as provide system information from various MWS databases such as CIS, CMMS, SCADA and GIS.

3.5 Resources to Respond to SSO Events at Pump Stations

Route Services, within the Operations Division, is responsible for the operations and maintenance of MWS's 101 wastewater pump stations.

Each pump station is equipped with a SCADA system that monitors the operation of the stations. The SCADA system will convey alarms when predetermined conditions are present at the station. Monitoring parameters include, but are not limited to: power failures, high wet well levels, and pump failures that could potentially cause overflows.

In addition to the continuous monitoring, each station is inspected on a regular basis. The frequency of these inspections is based on factors such as facility age, operating history and size of facility. Route Services maintenance personnel perform service and calibration of all

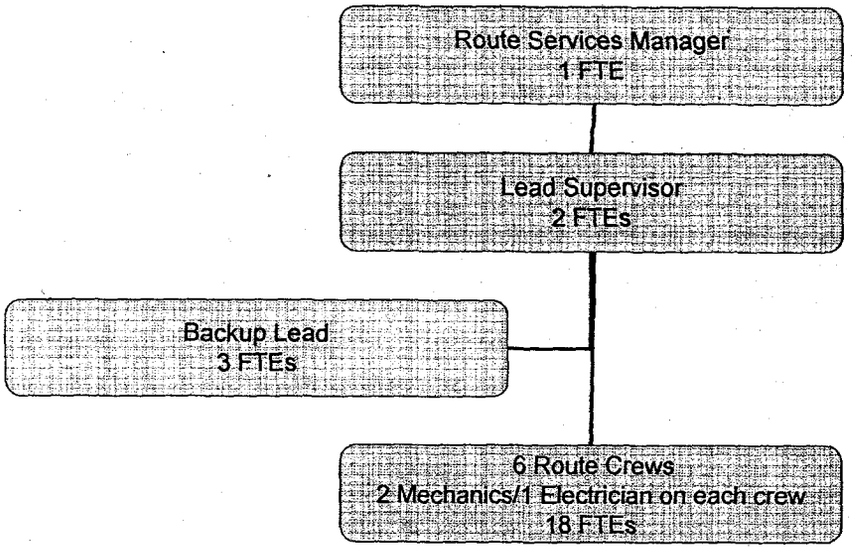
instrumentation, such as flow meters, level sensors, alarms, and SCADA equipment, on a periodic basis.

Route Services personnel serve as the First Responders for pump station trouble calls. For any incident that involves an overflow, Route Services executes the requirements of the SORP and takes the appropriate action to contain the overflow. Response to any overflow that may involve pumping stations including high wet well alarms, force main breaks, etc will be coordinated with Route Services

Route Services is broken up into different areas of maintenance responsibilities. This includes predictive, routine, preventive and corrective maintenance. This group also performs any emergency repair necessary. The following chart identifies which operating section is responsible for predictive, routine, preventive, and corrective maintenance.

Figure 2 summarizes the organizational structure of MWS's response to SSO events at pump stations.

Figure 2



Route Service Manager
The Route Services Manager is a member of the Operations Division Management Team. This Manager position assists in the coordination of emergency field responses to pumping station issues. This position also oversees resource allocation and monitors maintenance activities.

Lead Supervisor
The Route Services Lead is a member of the Route Services Management Team. This Lead position is responsible for the day-to-day field activities that maintain pumping stations and respond to emergencies. This position schedules and tracks activities in CMMS

Backup Lead
The Route Services Back-up Lead is a functional apprentice program format that enables a level of duplication in the event of Lead absence.

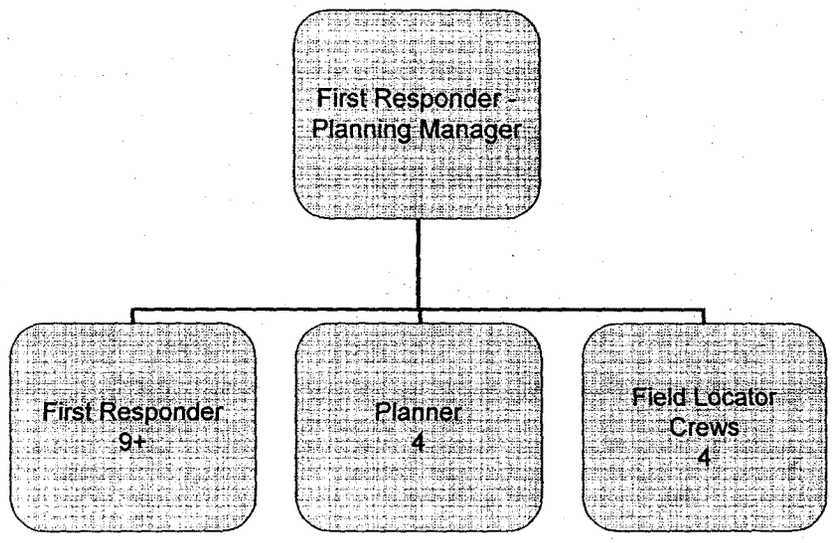
Mechanics
The Mechanics are functional positions charged with the maintenance and repair of pumps, piping and internal non-electrical components of the pumping stations.

Electricians
The Electricians are functional positions charged with the maintenance and repair of motor, controls and non-mechanical components of the pumping stations.

3.6 Resources to Respond to SSO Events in the Gravity Line Systems

The following organization charts and job titles summarizes MWS' response to SSO events in the gravity line system.

First Response - Planning

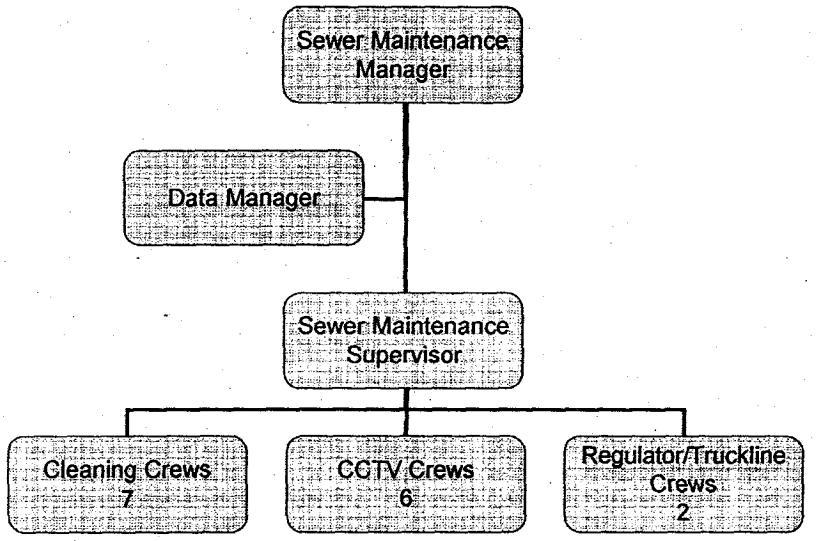


First Responder – Planning Manager
The First Responder - Planning Manager is a member of the System Service Division Management Team. This Manager position assists in the coordination of emergency field responses to wastewater and water complaints. This position also helps coordinates emergency and plans non-emergency corrective actions. This functional section also includes the Field Locator activities that field mark underground infrastructure for excavation activity inside and outside the Department. Depending on the shift and day, others Assistant Managers and Supervisors may function in the capacity of First Responder – Planning Manager.

First Responder The First Responders are employees of the System Services Division. They provide the initial response to SSOs or other unscheduled wastewater trouble. These resources traditionally are the first MWS representatives to arrive at a reported overflow. They will initiate the MWS field response per this SORP. As wet weather events

necessitate, other employees of MWS may serve as First Responders, depending on the severity of the weather event.

Sewer Maintenance – sewer collection system piping network operation and maintenance



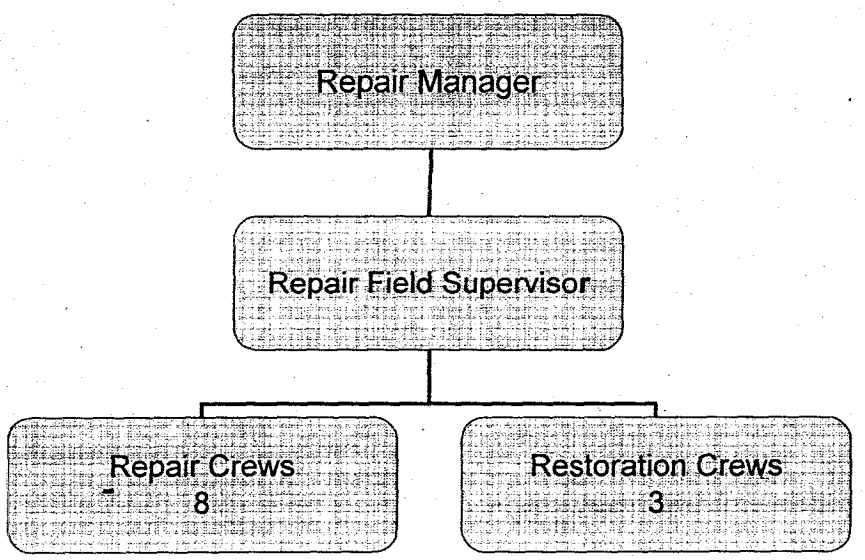
Sewer Maintenance(SM) Manager
The SM Manager is a member of the System Service Division Management Team. The SM Manager develops and tracks sewer maintenance activities, productivity goals and collection system compliance. This Manager also works on special projects and assists in solving system and customer problems and resolving special cause variations outside standard operating procedures.

Sewer Maintenance Supervisor
The SM Supervisor is a member of the System Service Division Management Team.. The Sewer Maintenance Supervisor oversees the day-to-day activities of the CCTV and Cleaning Crews including scheduled preventive maintenance, SSO and CSO coordination and reporting and collection system facility operation such as regulator chambers, trash traps, etc for collection compliance. This position also addresses any short-term (daily) or long-term resource issues that impact sewer maintenance production goals involving staffing and equipment.

Cleaning Crew
The Cleaning Crews are part of Sewer Maintenance Section of the System Services Division. These crews primarily perform routine and emergency response cleaning and may function as a First Responder depending on their location in relation to sewer complaint. These crews will perform any containment and cleaning activities prescribed by this SORP in all areas of the public sewer collection system.

CCTV Crew
The CCTV Crews are employees of the Sewer Maintenance Section of the System Services Division. These crews primarily perform routine and emergency response closed circuit televising and may function as a First Responder depending on their location in relation to sewer complaint. Their historic records of maintenance and condition assessment are also used in the evaluation of any chronic system problems in coordination with our FROG and Overflow Abatement Programs.

Repair – crews perform work on both the collection system and distribution system



Repair Manager
The Repair Manager is a member of the System Services Division Management Team. The Repair Manager coordinates work activities requiring excavation and repair including all plan development, permitting, resource allocation and material needs. Depending on the

shift and day, others Assistant Managers and Supervisors may function in the capacity of Repair Manager.

Repair Supervisor
The Repair Supervisor is a member of the System Service Division Management Team.. The Repair Supervisor oversees the day-to-day activities of the crews involved in repair, valve operation and restoration. This position also addresses any short-term (daily) or long-term resource issues that impact sewer maintenance production goals involving staffing and equipment.

Repair Crew and Restoration Crew (Water Maintenance Leader, Equipment Operators and Tech)
The Repair and Restoration Crews are employees of the System Services Division. These crews perform point repairs and restoration and can provide specialized resources during unique clean up activities following an SSO. Typically, the Repair Crew is utilized when the cause of the SSO cannot be resolved by flushing or root cutting and may require excavation.

3.7 Engineering Activities – Overflow Abatement Program and Flow Monitoring Program

The following are activities that have impact on the SORP. The Overflow Abatement Program's objective is to eliminate extraneous flow in the collection thus eliminating wet-weather overflows. The flow monitoring activity is a tool used in conjunction with other maintenance activities in the operation and maintenance of the collection system. Flow data is also used to calibrate the sewer model and to initiate investigation of collection system flow abnormalities.

Overflow Abatement Program (OAP) Manager
The OAP Manager is a member of the Engineering Division Management Team. The OAP Manager and assigned engineering staff develop and implement sewer system projects for with the goal of abating overflows caused by wet weather issues, in order to bring MWS into regulatory compliance. In conjunction with the Overflow Committee, locations where wet weather overflows occur are annually reviewed and ranked. This information is used to develop a Capital Improvement Program for abatement projects. Management of planning, design, and construction activities for these projects are performed by OAP engineering staff. This Manager also works on special projects and assists in solving system problems.

Flow Monitoring (FM) Manager
The FM Manager is a member of the Engineering Division Management Team.. The FM oversees the collected data from MWS' 84 permanent monitors and 19 rain gauges. This information is used to generate regulatory reports, as a diagnostics tool for collection system performance and needed improvement, and to assess the effectiveness of OAP projects. Work also includes the definition and execution of additional flow monitors to further develop collection system objectives, operation and reporting of the MIKE URBAN Sewer Model for capacity allocation and trending and special projects related to collection system performance.

3.8 Equipment Resources

See Table 1 below for a list of equipment resources available for sewer system maintenance and SSO response.

Table 1

SEWER MAINTENANCE			
April, 2007 status	CCTV TRUCKS	ARIES	3
		CUES	2
		PIERPOINT	1
	JET RODDER TRUCKS	VACTOR	2
		SEWER EQUIPMENT COMPANY OF AMERICA (1 OR 3 IS BACK UP UNIT)	3
		SUPER PRODUCTS (BACK UP UNIT)	1
	COMBINATION JET/VACUUM TRUCKS		
		VACTOR	2
		VAC-CON	2
SSD REPAIR	CREW TRUCKS (R&M)	FORD	8
	TANDEM 10-YD DUMPS	FREIGHTLINER	14
	BACKHOE/LOADER	JCB	6
	BACKHOE/LOADER	NEW HOLLAND	4
	BACKHOE W/HYDL HAMMER	CASE	1
	BACKHOE TRAILERS	HURST	9
	PORTABLE AIR COMPRESSOR	LEROI	4
		INGERSOLL RAND	3
		SULLIVAN	4
	HYDL EXCAVATOR (TRACK)	JOHN DEERE	1
FLEET/GENERATOR			
SUPPORT SERVICES	HYDL POWER UNITS W/PUMP	H&H	4

	REPAIR/MAINTENANCE SHOP TRUCK	*FORD*	*1*
	GENERATOR SERVICE/FUEL TRUCK 800 GALLON	*GMC*	*1*
	GENERATOR/SERVICE/FUEL & PUMP TRUCK 100 GAL.	*DODGE*	*1*
	GENERATOR/SERVICE/FUEL & PUMP TRUCK 100 GAL.	*FORD*	*1*
	CRANE TRUCK/8-TON	*RO STINGER*	*1*
	CRANE TRUCK/28-TON	*MANITEX*	*1*
	TRUCK/TRACTOR W/6,000 GAL TANKER	*MACK*	
	SEWER BUCKET MACHINES	*SRECO*	*5*
	TRUCK/TRACTOR W/LOWBOY	*MACK*	*1*
CWWTP UNITS	*TANDEM 10-YD DUMP*	*FREIGHTLINER*	*1*
		INTERNATIONAL	*1*
	COMBINATION JET/VACUUM TRUCK	*VACTOR*	*1*
ROUTE SERVICES	*CREW TRUCKS W/CRANE*	*FORD*	*3*
	CREW TRUCK 3/4-TON	*DODGE*	*6*
	SKID STEER LOADER	*NEW HOLLAND*	*1*
	PORTABLE GENERATORS	*500 KW*	*2*
		250 KW	*5*
		125 KW	*3*

3.9 Approach for System Evaluation for the Purposes of Mitigating Wet Weather SSO

Wet Weather Investigations

In addition to the preventive maintenance, flow monitoring and reports of system problems, MWS' Wet Weather Investigations are an additional tool used to qualify the performance of the collection system. This program is a structured proactive inspection of locations in the sanitary sewer system that have demonstrated the likelihood to overflow during heavy rain events. These locations are identified in response to past activity, system flow monitoring and/or modeling data. Information gathered during these wet weather investigation may in the need for system upgrade and/or pipeline rehabilitation or replacement.

Wet Weather Investigations will be initiated under the following conditions:

- Forecasted weather conditions
- Current and/or recent wet weather conditions that are likely to have caused an overflow at historically active locations such as increased water tables
- Flow data at key monitoring points that indicate increased likelihood of an overflow at active and watch list locations.

Wet weather investigations are predetermined to enable optimization of resources. The need for this activity is defined through the efforts of MWS' Overflow Abatement Program and executed through collaborative efforts of many divisions and/or contract services.

Section 4

4.0 SORP Goals and Procedures

The goal of the SORP is to document MWS's procedure for responding to all SSOs and to ensure a consistent response. These protocols are intended to address all types of events and ensure that every effort is made to reduce the impact on the environment and protect the public from any potential health hazards associated with an overflow or backup. MWS will use its discretion and best professional judgment to evaluate each event and choose the appropriate remediation tools.

The SORP details events from the time MWS receives notification of a possible overflow until the confirmed SSO is contained and the site is remediated. The identification of the responsibilities and responses for typical SSOs are detailed in Appendix E, titled Sewer Overflow Response Plan Flowchart.

Appendix F outlines the standard operating procedures used in response to SSO events and the responsible parties for each work step.

4.1 MWS Receives Report of Possible SSO

MWS may receive a report of a possible SSO in a variety of ways. The most common and effective notification comes from individuals who witness the event and call the CSC at (615) 862-4600 option 1, option 3. As mentioned in Section 3.3, 24 representatives are employed in the CSC that may be involved in activities with collection system issues . Twelve of these representatives provide around-the-clock customer service seven days a week. CSC representatives take reports ranging from manhole overflows to sewage on private property. Other Customer Service employees, as well as cross-trained employees throughout MWS, can be pulled into CSC during emergencies.

MWS's more than 171,000 wastewater customers can identify a possible problem in the sanitary sewer system and alert MWS, through CSC, to initiate the SORP. When CSC representatives receive reports of potential wastewater problems, they initiate a Service Request through the CMMS as illustrated below. The call is then immediately dispatched to the First Responder.

Upon initial review by the First Responder, wastewater trouble calls associated with clean up require immediate investigation by the Claims Division of the Metro Nashville Legal Department. This requirement is weighed against the time of response by the Claims representative if customers are experiencing health and safety threat or property damage within their premises necessitating clean-up efforts beyond the scope or capability of MWS personnel. Immediate clean up efforts are begun asap in these cases. Non-threatening property damage and many other claims related calls are non-emergency situations and can be handled during regular business hours. Examples include yard damage, driveway or walkway damage, or damage to a vehicle from debris falling from a MWS truck, as long as no personal injury was involved. Any standing sewer is handled as an emergency and remediated asap.

Calls from crews or other MWS employees, city employees, 911, or other agencies may go through CSC, MWS's dispatching center. System Operations personnel are highly trained in responding to trouble calls and receive frequent updates from crews by two-way radio or cellular telephone. Beginning July 2007, MWS will also utilize MWM in addition to current communication means.

MWS also uses its many employees in the field for day-to-day operational purposes as a resource.

As MWS employees are working throughout the system, they have a duty to observe problems and notify MWS of wastewater trouble issues.

Designated field crews also proactively look for overflows at "active and watch lists" locations that MWS has identified by tracking SSOs that occurred during significant rain events. The crews initiate the survey based on predicted or recognized conditions that may cause wet weather SSOs. These locations are also tracked through hydraulic modeling and calibration of the systems 84 permanent flow monitors and 19 rain gauges. Temporary flow monitors are added as needed to further delineate basin activities.

Active and Watch List Locations

2 007 Rain Induced Overflow List

	Dry Creek Basin Sites - Active	**2004**	**2005**	**2006**	**thru Mar. 2007**
106	Vandiver SPS	9	4	2	0
109	Dry Creek SPS	4	3	3	0
110	Loves Branch SPS	12	5	3	0
112	Gibson Creek SPS	8	4	3	0
117	Neeley's Bend SPS	4	3	2	1
123	Lakewood SPS	1	4	2	0
127	Madison Heights SPS	3	3	2	0
132	Berwick Trail SPS	5	5	3	0
150	Hidden Acres SPS	1	0	2	0

	Dry Creek Basin Sites – Watch	**2004**	**2005**	**2006**	**thru Mar. 2007**
303	North Dupont	1	0	1	0

	Whites Creek Basin Sites - Active	**2004**	**2005**	**2006**	**thru Mar. 2007**
104	Whites Creek SPS	14	10	6	1
107	West Park SPS	8	2	1	0
114	Davidson Branch SPS	15	8	5	1
136	River Drive SPS	4	3	2	0
217	Basswood	16	7	5	1
337	Richland Creek – TDOT	4	2	2	0
339	Richland Creek – 23rd Street	1	1	2	0
379	622 Davidson	2	2	1	0

Whites Creek Basin Sites – Watch	**thru Mar.**

		2004	2005	2006	2007
126	Cleeces Ferry SPS	2	2	0	0
145	Joelton SPS	9	5	2	0
170	Edinburgh SPS	5	1	1	0
206	Brookwood Terrace	1	1	1	0
321	Morrow Road	1	1	0	0

	Central Basin Sites – Active				**thru Mar.**
		2004	**2005**	**2006**	**2007**
103	McCrory Creek SPS	1	3	0	0
124	Williamson Ferry SPS	3	4	2	0
130	Browns Creek SPS (Visco Dr.)	7	7	2	0
133	Holiday Travel Park SPS	6	3	4	0
176	Dodson Chapel SPS	10	3	3	1
189	Langford Farms SPS	5	4	1	0
222	Barker Road	11	10	2	3
226	Cowan Street SPS	9	5	4	0
329	Village Ct	1	0	0	0
338	Benita Drive	0	0	0	0

	Central Basin Sites – Watch				**thru Mar.**
		2004	**2005**	**2006**	**2007**
140	28th Ave. SPS	8	0	0	0
151	Shelby Park SPS	6	0	0	0
184	Munn Road SPS	5	1	0	0
187	Peppertree SPS	3	1	0	0
190	Town Village SPS	1	0	2	0
308	Omohundro (West of WTP incl 309 & 311)	0	0	1	0
328	Cooper Lane	1	0	1	0
370	Lisa Lane	0	0	0	0
371	Apex St.	0	0	2	0
382	Mill Creek / Mud Island				

CSO Sites		
18	Van Buren	Active
19	Kerrigan	Active
23	Benedict & Crutcher	Active
24	Washington Dee Cee	Active
33	Schrader Lane	Active
35	Driftwood	Active
47	Boscobel	Active
20	Broadway	Emergency Overflow
34	Fort Nashboro	Eliminated

In addition, automated systems also alert System Operations to possible problems. The SCADA system, for example, is installed on all 101 MWS pump stations, and it helps predict or identify an event and determine its duration and volume. There are also historic overflow activity threshold

alerts correlated to the systems 19 rain gages. A SCADA notification prompts dispatchers to contact the First Responder and/or Sewer Maintenance personnel either on shift or on-call, which investigates and remediates problems. Using a Web browser, IntelliServe by ADS Environmental Services allows MWS to monitor real time flows in the collection system at strategic locations. Rain data is combined with high depth identification to produce wet and dry weather-induced overflow alarm notification. These alarm notifications can then be sent through email or directly to a phone for further investigation by MWS' personnel.

[See Appendix A for Information Technology Resources and Descriptions.]

For all reports of possible sewer overflows, MWS collects the following information:

- Time and date of the call
- Name of person reporting the occurrence
- Location of the event
- Description of the event
- Time noticed
- Name and phone number of the caller
- Observations such as odor and duration
- Any other information to help in response time, containment, and remediation.

When CSC receives a report of wastewater trouble, the data is entered in the CMMS as a Service Request (below) and dispatches to the MWS First Responder.

The following is a sample CMMS screen used to complete a sewer complaint field investigation.

Metro Water Services

Nashville, TN
( ) -

Service Request Detail

Report Date 04/27/2007 10:41 AM **Submitted By** Lyn Fontana

Service # 127102
Problem SSSBU SEWER(AGE) BACKING UP
Address 2501 FINLAND ST
NASHVILLE TN 37208-

Call Date 04/12/2007 09:28 **Priority** **Duration of Call** 00:00
Taken By FRAJ2 FRAZIER, JOHN W. **Responsibility** SM SEWER MAINTENANCE **# of Calls** 1
Source **Project**
☐ **Customer Contact Requested** **Budget #**

Service Request Progress

Schedule	(resolved)
Inspect	Not inspected with no due date. Assigned to MCCSP STEVEN MCCLAIN.
Resolve	Resolved at 04/12/2007 10:55 AM with code RES RESOLVED. No work orders are required.

Location XST OSAGE
Area **Sub-Area**
District **Map #**
Parcel 08110016000
Template Type **A/P #**
Asset

Primary Caller

Name KING
First,MI DARRELL, **Title**
Address

City
State/Province **ZIP/PC**
Country ☐ **Foreign** **Reference #**
E-Mail
Day Phone (615)569-2584 x **Evening Phone**
Call Date 04/12/2007 09:28 **Taken By** FRAJ2
Comments
SEWER BACKING UP

CALLED OUT TO MCCLAIN @ 0930 4/12 JF

Call List

There are no additional callers for this service number

Log Type	Description	Log Started	Log Ended	Entered By
RES	RESOLUTION	04/12/2007 10:55		ERNJD

Comments: CHECKED METRO LINES, CLEAR, TALKED TO PROPERTY OWNER. PRIVATE TROUBLE

Inspected						Resolution					
By		Date		Time		Code		Date		Time	

Scheduled Resources

Employee ID	Scheduled Start	Scheduled End	Work Description
No resources scheduled.			

Equipment ID	Scheduled Start	Scheduled End	Work Description
No resources scheduled.			

Vehicle ID	Scheduled Start	Scheduled End	Work Description
No resources scheduled.			

4.2 System Response to Reported Discharges

Receive a Call and Dispatch First Responder

MWS CSC Dispatch receives a call or automated notification that initiates the field response, creates a Service Request in CMMS, and dispatches a field order by direct talk and/or by land to cell phone to a First Responder in MWS's SSD. All reports of sewer system failure or overflow is handled as an emergency and is responded to immediately.

The table below illustrates MWS's associated actions.

Response Actions

Response Level	Definition	Response	Actions
Emergency	Pump Station Failure *(Mechanical, Electrical, Electronic, or Power Supply)* Collection System Overflow	Dispatch First Responders immediately and available crews if necessary	First Responders will assess situation and begin SORP activities. They can request additional resources through dispatch.
Routine	Typical Wet Weather Events	During/after wet weather events, Sewer Maintenance Crews investigate for activity or signs of activity for clean-up and any corrective action	Sewer Maintenance Crews field verify each site and begin SORP activities.

MWS considers all system failures resulting in an overflow or backup to be a high priority.

MWS will make all reasonable efforts to respond to an SSO within sixty (60) minutes of notification with qualified and equipped personnel. Allowances will be made to ensure that the safety of the Responder and the public is the first priority.

Dispatch waits for the First Responder to confirm the SSO report. Until the First Responder confirms there actually is an overflow, the report is not considered an SSO.

After confirmation of the overflow, Dispatcher(s) stand by to dispatch additional resources as needed or close out field orders.

All sewer complaints and overflows are recorded and reported through the Department's CMMS and can be generated in a variety of ways including by date, by cause, by location, etc.

First Responders and/or SM Crew Leaders managing the overflow correction is also responsible for making the initial and any follow-up Overflow Notification Form to TDEC. Any public notice beyond what was necessary at the overflow site is then determined.

MWS Overflow Notification Form:
This form is transmitted to TDEC (Ann Rochelle) within 24 hours of an overflow. Up-date notices are also sent to advise of additional information as needed. All overflow incidences are also included on MWS' Monthly Overflow Report to TDEC and are posted on the MWS website. (see next page)

METRO WATER SERVICES

Sewer Overflow Notification Form
Davidson County

TO: Tennessee Department of Environment and Conservation
e-mail to: MWS Sewer Overflow Notification Group – this e-mail address includes (Ann Rochelle (TDEC FAX: (615) 687-7078 OR (615) 687-7072), MWS – Hal Balthrop, Anthony Waggoner, Jim Paulus, Brent Freeman, Michael Hunt, Leanne Scott, Dale Binder, Steve Winesett, Cyrus Toosi, Greg Ballard, Mike Morris)

Check all that applies (fill in every line even if entry is n/a or unknown)

ORIGINAL NOTICE ☐ UPDATED NOTICE ☐ DATE: ☐

REPORTING CONTACT:
☐ Anthony Waggoner (615-566-3953) ☐ Billy Raines (615-456-9212)
☐ Eddie Waynick (615)-566-4015) ☐ Other: phone:
☐ MWS Control Room (615) 862-4980

MWS TELEPHONE NUMBER: 615-862-4600 (option 1 and option 3)

DATE OVERFLOW REPORTED: TIME:

TIMES: ☐ Observed ☐ Alarmed start: am/pm end: am/pm

VOLUME OF OVERFLOW (Estimated): ☐ seep ☐ over 100 gallons
☐ over 1000 gallons Other:

LOCATION OF PUMPING STATION, MANHOLE or BREAK :
☐ MH map quad # ☐ SPS name:
Street or address cross street

WATERBODY IMPACTED: ☐ none (surrounding ground only) ☐ stormwater system
☐ Waterbody name if unnamed indicate downstream waterbody

CAUSE: ☐ grease ☐ grit/debris ☐ roots ☐ line break ☐ under review ☐ I/I (rain caused)
☐ SPS mechanical ☐ SPS power outage ☐ other (explain)

CORRECTIVE ACTION TAKEN/INCORPORATED: ☐ remove blockage
☐ Contained, est. volume ☐ recovered, est. volume ☐ bypass pumpage
☐ filtration (hay bales) ☐ other

EXPECTED COMPLETION TIME & DATE FOR CORRECTIVE ACTION or REPAIRS & CLEAN-UP:
Follow-up clean-up necessary ☐ yes ☐ no due to: Date: Time: am/pm
☐ wildlife impacted
Reported for televising ☐ yes ☐ no

ACTION TAKEN TO MINIMIZE HEALTH HAZARDS TO PUBLIC & IMPACT ON WATER QUALITY: ☐ none necessary ☐ coordinated with MWS NPDES ☐ WQ sampling
public notice: ☐ barricades ☐ signage ☐ door hanger ☐ outbound call ☐ website ☐ press release

INFORMATION REPORTED BY:

4.3 First Responder

4.3.1 Receive Work via Direct Talk (two-way radio) or cellular communication

Depending on the day and work shift, First Responders will be Technicians, Maintenance and Repair Supervisors or Sewer Maintenance Crew Leaders. They will receive notices from either Dispatch or the Operation's Control Room indicating a sewer complaint or system alarm. All activities are logged into CMMS.

4.3.2 Confirm Sanitary Sewer Overflow

The First Responder immediately dispatches and investigates the scene of a possible overflow, and then reports to Dispatch to confirm system status and any needed resources. Until confirmed, the report of a possible overflow is not considered an SSO.

The First Responder is responsible for ascertaining the source of any discharge or origination point of observed flow and determining the cause of the discharge. This determination may vary depending on the type of overflow. To illustrate this determination process, a typical SSO originating from a MWS manhole is described.

To determine if a manhole is overflowing, the First Responder will trace either the flow or watermarks indicating the path of flow back to its source. In this example, the manhole would be recorded for the SORP notification practices. The SORP Training Component contains more information relating to the process of confirming if the overflow is an SSO.

Backup in buildings require additional investigation to determine if the wastewater trouble is due to problems on the MWS's system or are a result of a failure on the service lateral. To determine responsibility for a backup, the First Responder will need to ascertain the location of the cause of the backup.

Process for Investigating Building Backups

1. MWS Responsibility

    a. MWS inspects water levels in manholes to determine if the backup may be caused by a blockage in the main. This type of manhole inspection is conducted by inspecting downstream manholes with respect to the blockage location. If no water is flowing in the downstream manhole, or if a significant change in the flow is observed in the manhole, then MWS will flush the upstream line. This is then followed up with mainline CTTV to determine any system defect that may be causing the blockage or result in further problems.

    b. If the First Responder inspects the manholes and no evidence of a blockage

is found in the main, then MWS will have the segment jet cleaned and subsequently physically inspect the main using CCTV technology. If this investigation process does not reveal a blockage in MWS' wastewater collection system, then MWS will advise the customer to contact a plumber to resolve the disruption on private property.

c. During severe wet weather events, or if the blockage is found to be MWS' responsibility, the First Responder will advise the customer and contact Claims to assist with cleanup and any other property restoration determined to be MWS' responsibility. If Claims is not immediately available, the First Responder will initiate clean-up activities through Metro contracts and emergency contact lists.

2. Customer Responsibility
   a. Consistent with Metro Code, the customer owns and is responsible for the maintenance of their service line from the main to the structure served. If the property in unsuccessful in making correction of the service line blockage, MWS will assist after the property owner has provided a clear and open access to the service line.

   b. If the private service lateral is not retaining wastewater at the cleanout or open access located at property or easement lines, then the cause of the disruption is probably located toward the structure served. MWS will utilize a service line camera to inspect the service line from the cleanout or open access toward the main. If there is a blockage or failure in this segment, MWS will perform the necessary work to restore service. Residential customers will have no charge, Commercial customers will be billed at-cost.

   c. If the private service lateral is retaining wastewater at the cleanout, then the cause of the disruption is downstream from this location toward MWS' main; therefore, additional investigation is required to determine if the blockage is in the main or in the remaining portion of the private service lateral.

   d. If a property owner disputes a determination by MWS that a building backup is due to "private trouble," then they may appeal the First Responder's assessment through the Metro Claims.

Property Damage

As needed, MWS Claims and MWS uses independent cleaning and restoration contractors to assist in cleaning, sanitizing, and repairing damages caused by SSOs that are directly attributed to blockages or structural failures within MWS's wastewater collection system. All restoration contractors are licensed professionals in their area of expertise and are available to MWS through a Metro Government contracts. MWS also has in-house capability of assisting with and handling system overflow clean up at the

manhole point source. Private property clean up is always handled through third party contractors. All SSO claims are managed in-house with a MWS Claims Investigator assigned to each incident. The investigator coordinates work tasks between MWS work crews and the independent contractors while keeping the customer informed of progress.

4.3.3 Determine Whether Suspicious Substances May Be Present

The First Responder then determines if there are any possible suspicious substances in the overflow. If there is an oily sheen to the liquid or a strange odor, for example, then the First Responder will contact the MWS Environmental Compliance Officer and the Department's NPDES contact for guidance on proper action and sampling requirements.

If directed, establish an interim control zone and wait for a hazardous materials (HAZMAT) team or the fire department before proceeding. Responders will take direction from the lead authority of the team until the area is deemed safe and then shall proceed with containment and remediation.

4.3.4 Locate Disruption

To determine the total impacted area and the necessary remediation techniques, the Responder must first identify the location of the disruption to the sanitary sewer system and the configuration of the infrastructure.

The First Responder will have either a computerized or paper graphic of the sanitary sewer system to determine the infrastructure configuration and the necessary investigation points to be evaluated, such as downstream manholes, types of connections and other potential problem areas.

4.3.5 Identify Impacted Area

After locating the disruption, the next step is to identify the total impacted area. The Responder will trace the impacted area and determine what environmental impacts and potential hazards to public health are present and take the appropriate steps described in the SORP Training Component to mitigate the problem. Factors to be included in evaluating the impacted or potentially impacted area, include, but are not limited to the following:

- Streams and creeks
- Stormwater infrastructure
- Private property
- Public safety and accessibility.

4.3.6 Establish Control Zone Procedures

When the First Responder identifies the area impacted by the SSO, the next step of the initial overflow response stage is to develop and implement a control zone around the impacted area. The control zone will help prevent public access around the perimeter of the affected surface area using appropriate signs and barricading practices. The purpose of the control zone is to warn those who may enter this area of potential health hazards associated with contact with SSOs. The temporary signs and barricades will warn

passersby to avoid contact with this area.

4.3.7 Assess the Site

After the total impacted area has been identified and a control zone installed, the next step for the Responder is assessing the most appropriate response plan.

SSOs can occur anywhere in the sanitary sewer system, including along creeks and within public right-of-ways or dedicated public easements. The Responders understand that each event may require a unique plan of action. Water sampling may be necessary depending on the impacted area, the feasibility of containment during the SSO, and the potential for material to reach the waters of the state. Consistent with standard operating procedures, First Responders should contact the MWS NPDES Section if waters could become impacted base on the flow path in the area and it is a dry weather SSO event.

MWS will employ all reasonable means to remediate the site and restore service to customers. The Responder will determine what resources should be used. The Responder should request specific guidance immediately from the SM Supervisor or other designated resources for unusual situations or to ensure the proposed plan of action will meet the goals of the SORP.

4.3.8 Identify Resource and Technique Requirements

MWS will use all necessary response procedures and implement essential methods to ensure that the goals of the SORP are satisfied.

The following resources are available as needed:

- Trained personnel
- Excavation equipment
- Combination and stand alone cleaner/flusher equipment
- Closed-circuit television equipment
- By-pass pumping equipment
- Other materials, such as sand bags, silt fences, lime, signs, barricades etc.
- Regulatory Agency contact
- Police Officers for needed site security

The Responder will identify the necessary resources and techniques based on site accessibility, location of disruption of service, size of impacted area, and need to minimize the impact on the environment and the risk of hazards to public health.

Refer to Section 3.0 for additional information relating to resources available to achieve the goals of the SORP.

4.3.9 Mitigate Further Impact on the Environment and Hazards to Public Health

MWS will reduce the negative impact on the environment and hazards to public health by employing all reasonable containment activities during overflow events. Refer to the Sewer Overflow Response Plan Flowchart in Appendix E and Standard Operating Procedures for SSO in Appendix F for procedures. The timing of this will be concurrent

with mainline jetting, vactoring or televising to either eliminate the blockage or discover any system failure creating the overflow.

4.3.9.1 Isolate or Contain SSO Overflows
Containing spills is the concept of establishing a physical barrier to control the further dispersal of sewage, thus reducing the impact on downstream areas such as private property and streams. An appropriately developed and established containment plan will consolidate the escaped sewage into a defined area. The use of combination cleaners to reclaim or vacuum the overflowed sewage is now practicable. This collected volume will be estimated and included in our SORP notification process.

Containment procedures will vary on a case-by-case situation. The Responders should request specific guidance immediately from the SM Supervisor , MWS NPDES Coordinator, or other designated resources for unusual situations or to ensure that the proposed plan of action will meet the goals of the SORP.

MWS will reduce the potential negative impact on the environment and public health by employing all practicable containment activities during overflow events. Typically, the type of overflow event or the size of the overflow is the criteria for deciding if filtration or containment is the most feasible approach.

Sandbagging or other constricting methods
When site and weather conditions allow, entry points into the stormwater system may be obstructed with various methods that may include sand bags, hay bales, inflatable plugs, or simply redirecting the flow using construction equipment to "dam-up" areas with available materials.

4.3.9.2 Filtration of SSO Overflows
Filtering spills establishes a physical strainer to reduce the impact of solids, paper, etc., from the flow by stopping or reducing the spread to downstream areas, such as private property and streams.

MWS will reduce the negative impact on the environment by employing all practicable filtration activities during overflow events. Typically, the type of overflow event or the size of the overflow is the criteria for deciding if filtration or containment is the most feasible approach.

Wet Weather Overflows
During Wet Weather Overflows, the volume of the overflow can exceed the ability of the field crews to successfully contain it. For example, containment might not be practical during an intense rain event with a high volume of overflow. Filtration may be the only option until the flow subsides. Filtration will be utilized where practical.

4.3.10 Determine Whether Flow Diversion Techniques Are Practicable
When possible, flow diversion techniques provide an effective means of

conveying the overflow back into the sewer system. This procedure reduces additional potential impact on the immediate area and the possible impact downstream. The flow diversion techniques employed by MWS when practicable include, but are not limited to, the following:

- **By-passing measures**

  Portable by-pass pumps can be used in certain situations to collect overflowed sewage from the environment and conveys it back into the sanitary sewer system beyond the disruption of service. This method is most effective in bypassing a single identified problem area when the overflow can be directed to the next downstream manhole. It is not appropriate in wet weather overflows. This type of equipment can be used in conjunction with other containment measures or may be used independently.

- **Combination cleaner/flusher procedures**

  Combination cleaner/flusher equipment provides an additional resource for collecting overflowed sewage and conveying it back into the sanitary sewer system beyond the disruption of service. This equipment can be used in certain situations in conjunction with other containment measures or may be used independently. Like portable by-pass pumps, this equipment is not effective in wet weather situations.

4.3.11 Mitigation/Remediation Solutions

The timely use of flow restrictions is the most effective instrument to reduce additional negative impact on the environment. Also, this phase of field activities restores service to MWS wastewater customers.

The type of mitigation and remediation will vary depending on the cause of the SSO. Wet weather SSOs are usually caused by inflow and infiltration (I/I), not by blockages or other problems in the system. Mitigation is not possible until the overflow subsides, but when it does, MWS will implement all necessary steps to clean up and disinfect the overflow site.

Dry weather events may be addressed using several methods. The field professionals should identify the most effective method or combination of methods to return service to the system. Field crews should use television inspection to determine the most effective way to resolve any service disruption. CCTV inspection will identify the cause and location of the blockage and the necessary techniques needed to eliminate it.

The following summarizes common abatement resolution activities. These resolution techniques can be used independently or combined based on field conditions and CCTV inspection.

- **Roots/Grease**

  Combination cleaner/flusher equipment is used to remove any grease, roots, or other obstructions from the line. A root cutter attachment may be necessary to remove the obstruction. Heavy roots and related pipeline integrity problems (through CTTV inspections) are reviewed for potential replacement and/or rehabilitation.

- **Collapsed Pipe/Sewer Breaks**
  An emergency pipe repair is required to replace the defective or collapsed pipe. A work order will be initiated immediately and necessary containment and diversion procedures will be in place until the appropriate repairs are completed.

- **Mechanical Failures/Treatment Facility Malfunctions**
  By-pass pumping or pump around may be used until the mechanical repairs are completed at the pump station or treatment facility. The responding crews should notify System Services to acquire additional support from construction crews as soon as the emergency repairs are identified.

- **Remove I/I**
  MWS will evaluate systemic wet weather SSOs and implement corrective measures as part of the Overflow Abatement Program.

4.3.12 Begin Clean Up

MWS's clean up of the impacted area will be thorough and comprehensive. The extent and methods employed during clean up will vary. Methods to be used will include wet vacuuming or other removal of spillage, containment, bypass pumping to on-site tanker or nearby sanitary manhole. Private property clean-up including wiping floors with cleaning solution and disinfectant, flushing out and disinfecting plumbing fixtures, carpet cleaning and/or replacement, and other measures to disinfect and/or remove items potentially contaminated are typical with companies MWS utilizes for the clean up process.

MWS follows these general practices, depending on the individual situation:

- **Manual Practices**
  Manual clean up techniques use hand tools, such as rakes, shovels, brooms, etc., to remove all readily identifiable material (sewage solids, papers, plastics, etc.) originating from the sewer system and properly dispose of it.

Disinfection Practices
Apply lime or other disinfectant and deodorization agents.

- **Mechanical Practices**
  When warranted, MWS will take extra steps (prior to disinfection) to remove contaminated soil. Mechanical clean up techniques, for example, use specialized excavating equipment, combination cleaner/flushers, portable aerators, by-pass pumps, etc., to remove all impacted substances and properly dispose of them. This could include the removal of impacted soil if determined by SM Supervisor and/or MWS NPDES Coordinator.

The goal of the clean up practices is to restore the site to pre-event conditions. One or more of the practices may be required, depending on the size and duration of the overflow and the area impacted.

4.3.13 Conduct Follow-Up Inspections

CCTV equipment, along with other investigative tools, should be used after remediation to verify the exact cause of the disruption and the success of the applied procedure or technique. The follow-up inspection should occur within two working days of remediation. Records of these activities are kept in CMMS.

4.4 Public Advisory Procedures

This section describes actions MWS takes, with TDEC and other appropriate authorities, to temporarily limit public access to areas potentially impacted by overflows from the wastewater collection system.

4.4.1 Control Zones

The First Responder will attempt to prevent public access by establishing a control zone around the perimeter of the affected surface area using appropriate signs and barricading practices. The temporary signs and barricades will warn passersby to avoid contact with this area.

Barricading practices will include, but are not limited to, cones, warning tape, barrels, barricades, etc. The limits, duration, and most appropriate control zone plan will vary on a case-by-case situation.

The control zone does not necessarily prohibit use of recreational areas, unless posted otherwise, but provides a warning of possible public health risks from contact with sewage.

4.4.2 Location of Control Zones

Although the location of temporary signs and barricades will vary for each site, the goal will always be to warn the public to avoid contact until the clean up is complete.

When possible, the control zone will be posted:

- Just beyond the limits of the impacted surface area
- Near high pedestrian and/or vehicular traffic areas
- Other appropriate locations.

4.4.3 Duration of Control Zones

Signs and barricades will be posted as soon as the overflow is confirmed and they will remain in place until clean up activities are complete. The timeframe may vary depending on the extent of the response activities, which may include significant mitigation and clean up requirements.

4.4.4 Public Information

The Public Information Officer or their designee will answer questions from customers about MWS's response to SSOs and, when necessary, will respond to the customer

reporting the SSO to explain MWS's response. The control zone signs also include the contact number (615) 862-4600 for the public to call for additional information. In the event property damage has occurred, Metro Claims will respond. The department may also use outbound calling to affected customers through CIS.

4.4.5 Door Hangers [See Appendix B]

Where warranted, MWS may use a door hanger with blanks for the date and location of overflows that can be filled in as needed in the field and left for customers. The door hanger includes ways customers can contact MWS for more information. Follow-up information will be provided to customers concerning additional remediation and/or their responsibility if the source of the overflow is their service line (roots, grease, debris or extraneous flow).

4.4.6 News Release [See Appendix B]

MWS maintains a standard news release on SSOs that can be quickly adapted to the particular situation and issued if MWS determines there is a significant threat to public health.

4.4.7 Customer Letters [See Appendix B]

In situations where a grease, roots or debris caused blockage has been identified, MWS sends letters to residential and commercial customers in the affected area. The letters advises the customer of their service line condition and their responsibility in alleviating future SSOs by removing roots, extraneous water, disposing of grease and other materials properly and include a brochure on proper disposal.

Public Notification Decision Matrix

Event	Action
Overflow into streams	MWS will place temporary signs along the stream at public access points. Signs will remain in place for 24 hours after clean up is completed. MWS may utilize door hangers or outbound calling for homes or businesses that may be impacted by the overflow. Additional notification will be considered in conjunction with MWS NPDES and TDEC.
Overflow in a residential or high traffic area, such as a school or public park	MWS will place temporary signs in the area of the overflow. Signs will remain in place for 24 hours after clean up is completed. MWS will utilize door hangers or outbound calling for homes or businesses that may be impacted by the overflow. Additional notification will be considered in conjunction with MWS NPDES and TDEC.

4.4.8 MWS Web Site [See http://www.nashville.gov/water/]

MWS will post a monthly summary of SSOs (excluding service lateral caused building backups) on its Web site. The posting will include, at a minimum, the following information:

- Date
- Time
- Duration
- Location
- Estimated volume of the overflow
- Overflow cause
- Corrective Action

4.5 Notification Procedures for External Organizations

When an SSO occurs, MWS performs the appropriate notification procedures as specified in its NPDES permit.

Types of Notification of SSO Events:

- **Immediate Notification [See 4.2 above.]**
  SM Supervisor or designee sends TDEC an Overflow Notification within 24 hours of a confirmed SSO. MWS is also available to reply to any requests for additional information by TDEC. This contact information is included on the Notification Form.

  TDEC Contact Person: Ann Rochelle, Nashville Environmental Assistance Center, ann.rochelle@state.tn.us

- **Updated Notification (as needed)**
  SM Supervisor or designee may send TDEC an updated Overflow Notification in the event that the original notice requires follow-up. MWS will also be available to reply to any requests for additional information by TDEC.

  TDEC Contact Person: Ann Rochelle, Nashville Environmental Assistance Center, ann.rochelle@state.tn.us

- **Monthly Notification**
  MWS summarizes the SSOs for the calendar month into a report and attaches the document to its NPDES Overflow Monitoring Report. The Monthly Overflow Report summarizes information conveyed in the individual Overflow Notifications.

4.6 Required Reporting Information

The collection of necessary information by responding professionals as described in Section 4.1 is crucial to provide accurate reporting.

To facilitate accurate record keeping and notification procedures, MWS collects the following information:

- Date and estimated time of the occurrence
- Name of individual reporting occurrence
- Location and street address of SSO (include MWS manhole number)
- Cause of SSO and failed system component
- MWS response activities
- Name of MWS Responders
- An estimation of the volume recovered and not recovered
- Duration of SSO event
- Did the overflow reach "Waters of the State"
- Name of receiving water and path, if applicable
  If flow from the SSO event was determined to reach "Waters of the State," provide the name of the receiving water, if any. Also, provide the path that the flow used to reach this body of water to the extent field conditions or equipment will allow. The following is a list of typical water conveyance components.

  Potential path to Waters of the State
  - Stormwater Pipe/Catch Basin
  - Ditch or Swale
  - Detention/Retention Basin
  - Creek/River.

These basic techniques are available to determine the amount of overflow that has occurred.

- Flow monitored data where available
- Calculating spill volume based on surface area
- Calculating Overflow from PumpStation or Pressurized System

Refer to Appendix C for estimation methods for these techniques. The technique of estimating the volume overflowed based on duration and measured flow rate is not the preferred method. The most appropriate application of this technique relates to overflows occurring at pump stations. The flow rate is extremely difficult to measure outside the confinements of the pump station scenario, therefore that technique will not be used in non-pump station scenarios.

4.7 SSO and Building Backup Tracking

Information regarding SSOs and building backups captured during the SORP process is stored in

a database that is used for both record keeping and reporting purposes. MWS links this data with GIS to graphically view where overflow and backups have occurred. Monthly reports are generated from the database that illustrate the following information:

- Number of occurrences
- Overflow event by cause
- Month-by-month comparison of occurrences.

4.8 Critical Incident Review Process

In the event of a critical system component failure, such as a pump station or a breakdown in response to collection system problem or compliant, the process owner and/or his designated staff will initiate a critical incident review with the departments involved in response to perform a root-cause analysis and provide recommendations that may prevent future occurrences or improve response.

4.9 Quality Assurance

To ensure an appropriate response to collection system problems, including SSOs, members of Sewer Maintenance, Route Services, Engineering and Stormwater team will audit monthly the response to evaluate how effectively the crew implemented the requirements of the SORP. The team will compare the actual response with standards of the SORP. If opportunities for improvement are identified, the responsible work sections will initiate appropriate resolution.

Section 5

5.1 Training

SM and Route Services personnel will conduct training for the appropriate response crews and support staff to ensure their compliance with the SORP. These training sessions will be organized based on the latest SORP, as well as other reference materials. Training sessions will be supplemented with a practical hands-on field component to ensure all response personnel are prepared for all anticipated situations.

Also, SM and Route Services will conduct refresher sessions annually or when changes are made to the SORP to ensure the same results. SM will oversee the SORP to ensure that the established procedures are being followed during implementation and field operation.

5.2 Review and Update SORP

MWS will review the SORP annually and amend it as appropriate. Review shall include, at a minimum, the following activities:

- Conduct workshop with managers and key personnel to review response activities and gather suggestions for new or revised procedures
- Review all contact lists and update as necessary
- Update the SORP as needed in regard to updated regulatory requirement.

5.3 Distribution and Availability of SORP

Copies of the SORP and any amendments will be distributed to responsible personnel and will be available to all employees through shared electronic files and website.

Appendices - Supporting Information

Appendix A: Information Technology Resources and Descriptions

1.0 Geographic Information System (GIS)

1.1 View of the GIS System and Description of Components Shown

2.0 Customer Information System (CIS) and Computerized Maintenance Management System (CMMS)

3.0 Interactive Voice Response System (IVR)

4.0 System Control and Data Acquisition System (SCADA)

5.0 Mobile Workforce Management (MWM)

Appendix B: Public Advisory Procedure Example

1.0 Sanitary Sewer Overflow Alert door hanger

2.0 Sanitary Sewer Overflow News Release

3.0 Customer Notification Letters Informing of Service Lateral Problems MWS Grease Management Program Door Hanger

4.0 MWS Grease Management Program Door Hanger

Appendix C: Field Manual SORP (includes estimator tool)

Appendix D: On-call List

Appendix E: Sewer Overflow Response Plan Workflow

Appendix F: Standard Operating Procedures for SSO

Appendix A: Information Technology Resources and Descriptions

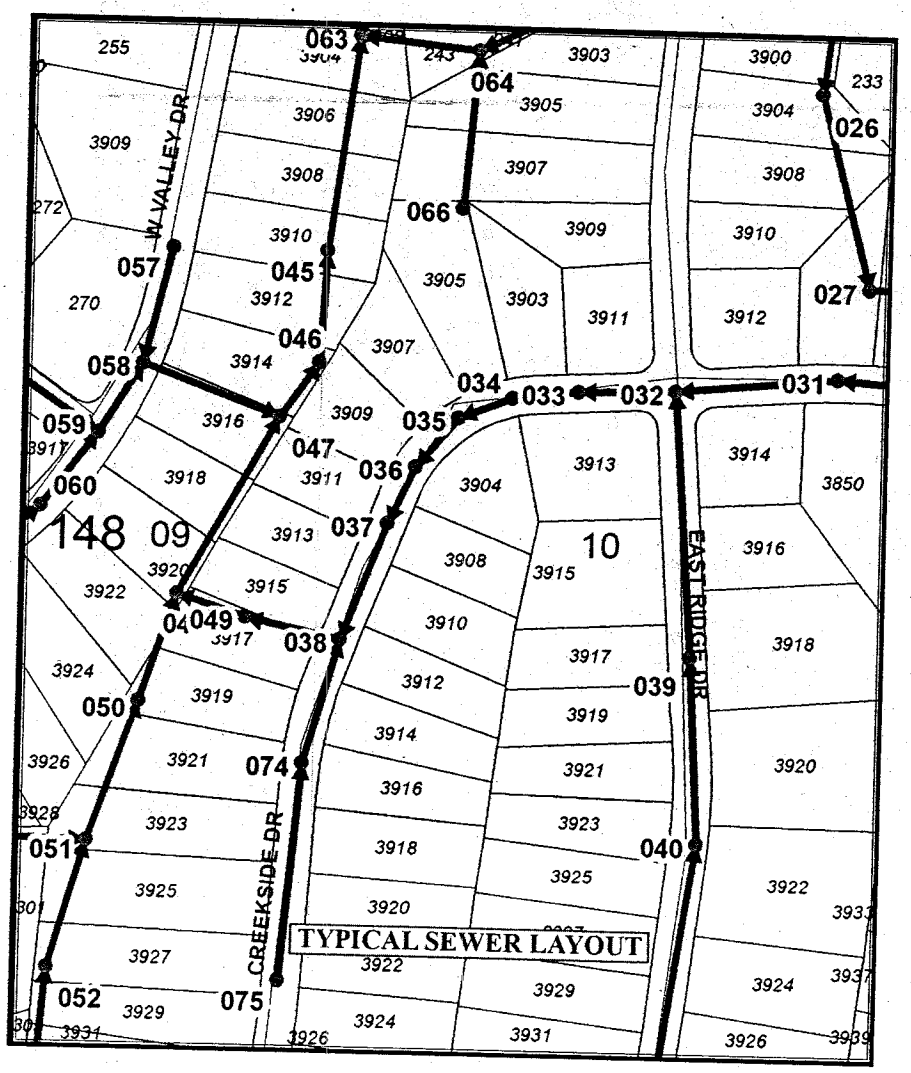
1.0 Geographic Information System (GIS)

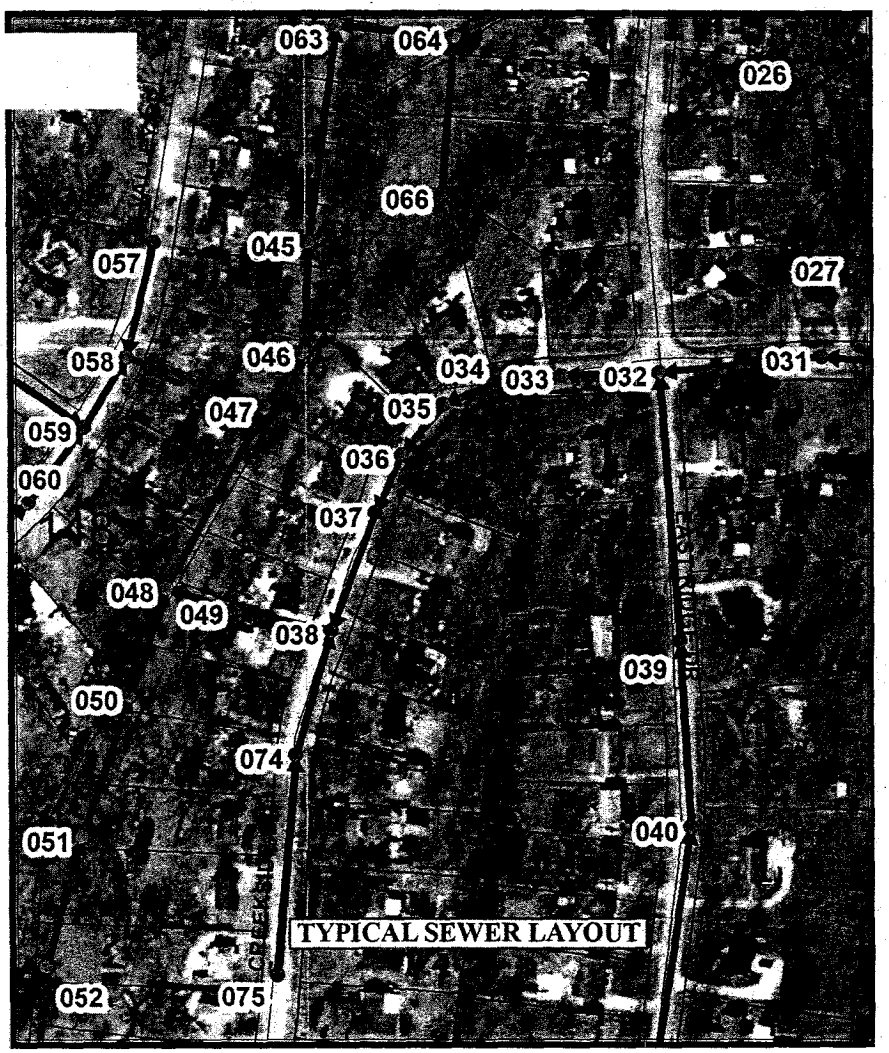
The Metro Nashville Planning Commission and MWS administers the common portions of GIS and its computer system. It also provides GIS and computer technical support and serves as a clearinghouse of GIS information and products.

The Records and Mapping Section of the MWS Engineering Division is also responsible for updating a common set of computer-based maps (for all Davidson County) that are used by all of its users. This base map data includes planimetric maps, topographic maps, and digital ortho aerial photography.

From a technical standpoint, the GIS displays the graphic (map) data as layers of information; that is, streets on one layer, parcels on another, buildings on another, etc. That allows an almost unlimited flexibility for viewing only the desired features and area.

1.1 Views of typical sewer collection system map in GIS. Information on this mapping system includes street names, manhole identification numbers, geographic configuration and topographical features. Users can also see property information including owner. This information is on Field Personnel's laptop and is updated weekly.





2.0 Customer Information System (CIS) and Computerized Maintenance Management System (CMMS)

The CIS maintains records of account numbers, premise details, and other customer information. It also generates work orders and facilitates workflow between departments while keeping a record of activities requested by a particular customer or group of customers.

The CMMS maintains records of infrastructure assets and historic repair and maintenance activity performed. It also generates service requests and work orders and facilitates workflow between departments while keeping a record of activities requested by a particular customer or group of customers.

The CIS and CMMS allows requests to be passed from the Customer Service Center to Sewer Maintenance as a field activity, which is then dispatched to the First Responder and crews as a service request or work order. Information may be received on closure, such as

steps taken for remediation, and more specific information about location, such as manhole number.

Requests received from customers as well as internal requests are entered into the CIS and the CMMS. Information including customer name (if applicable), location, specific problem, and any additional comments that would help in the swift response to the request is recorded.

3.0 Interactive Voice Response System (IVR)

The IVR is the automated system that enables customer calls to be routed to the appropriate MWS representative. This system allows MWS to shorten hold times, provide fewer call transfers to the customer, and ensure that urgent calls are answered before lower priority calls.

Callers choose from options that include reporting account inquiries, stormwater, water, or wastewater emergency. Callers may also press 0 at any time to be connected to a customer service representative.

4.0 System Control and Data Acquisition System (SCADA)

The automated SCADA system may also initiate a field order through MWS Control Room. SCADA notifies the Control Room who in turn notifies Route Services if there is a system failure in any of MWS's 101 pump stations. SCADA gives valuable information on the duration of the overflow. SCADA is also used to identify system improvements and the operability of the station and to identify potential SSO events so that measures can be taken to prevent an overflow.

5.0 Mobile Workflow Management (MWM)

MWM is under development and is scheduled to go live in July 2007. This system will enable field orders to be dispatched to First Responders and other field personnel from CIS and CMMS electronically. MWM refers to the automated dispatching system that includes laptop computers in Field Personnel's trucks. The order will be dispatched to the field through radio technology on the city's 900 MHz frequency system enabling field crews to view information on a laptop. The GIS system is also used in the field to provide a map of the area to show the location of the sewer line and of the nearest residence or manhole. Field orders will be completed by the respective Field Personnel on their laptops that in turn will immediately update the CIS and CMMS. Remote monitoring of field activity will also be possible through this technology by Managers and Supervisors.

Appendix B: Public Advisory Procedure Examples

1.0 Sanitary Sewer Overflow Alert door hanger

METRO WATER SERVICES
SYSTEM SERVICES DIVISION
1616 THIRD AVE. NORTH
NASHVILLE, TN 37208
(615) 862-4600

Sewer Overflow Notice

This notice is to advise you that Metro Water Service has responded to a sewer overflow in your area. MWS response to overflows is coordinated with Local and State Watershed Management Agencies. Please avoid the affected area and note the following:

Date: _____

Address or general location of overflow:

_____

The overflow was/is:

- ☐ corrected
- ☐ in process of being corrected – you will receive further information
- ☐ continuing and will be corrected asap. You will receive further information.

The overflow was/is:

- ☐ isolated to the area immediately around the manhole
- ☐ extended to a area beyond the manhole area but did not reach any stormwater system
- ☐ extended to an area beyond the manhole and did enter stormwater system

Clean-up of the overflow is:

- ☐ complete
- ☐ in process – you will receive further information.

The overflow was caused by:

- ☐ grit/debris
- ☐ grease buildup
- ☐ roots
- ☐ other _____

OTHER COMMENTS

_____
_____
_____
_____
_____
_____

If you need further assistance, please call Metro Water Services at: 862-4600 Option 1 for English, Option 3 for Emergency Service and reference the following Service Request/Work Order No.

SERVICE REQUEST/WORK ORDER NO:

_____

2.0 Sanitary Sewer Overflow news release (to be coordinated with TDEC)

MWS maintains a standard news release on SSOs that can be quickly adapted to the particular situation and issued if MWS determines there is a significant threat to public health.

NEWS RELEASE

DATE XXXXXXXXX
For Immediate Release

For More Information
Contact: Sonia Harvat
MWS Public Information officer
sonia.harvat @nashville.gov
(615) 862- 4494

MWS Alerts Customers to Sanitary Sewer Overflow

MWS issued an alert today to people in the [insert area(s)] concerning a sanitary sewer overflow.

"The overflow occurred as a result of [heavy rain/ a blockage/ or other]," said Sonia Harvat, MWS Public Information Officer. "MWS responds to overflows in a manner consistent with state and national standards. We warn passersby to avoid contact by posting signs and using barricades, and we disinfect the area after the overflow stops."

[Note: Use this paragraph if the overflow is in a park/significantly affects a stream/etc.
The signs do not necessarily prohibit use of recreational areas, unless posted otherwise. The Tennessee Department of Environment and Conservation (TDEC) determines whether to post nearby waterways that may have been affected if water quality testing indicates a need.]

Overflows pose hazards similar to those in public restrooms or even your own bathroom. If you, your family, or your pets do have contact with the overflow, wash thoroughly with soap and water. Remember: Washing your hands carefully and often is the best defense against illness carried by animal or human waste.

MWS maintains a log of recent overflows and clean up efforts and other wastewater information at http://www.nashville.gov/water/. If you have questions or need to report an overflow, please call MWS at (615) 862-4600, option 1, option 3.

######

3.0 Customer Notification Letters Informing of Service Lateral Problems

Maintenance of Sewer Service Connection

FIRST NOTIFICATION

Date:

XXXXX

Name:

XXXXXXX

Address: XXXXXX

RE: Problems with the sewer service line for xxxxx (address)

The Code of the Metropolitan Government and Davidson County, Tennessee requires that owners maintain their service line "in such a condition as to safeguard the property, life and health of others". Specifically this means that excess ground water overloading the public system through joint leaks, sump pumps, roof drain or surface water inlets or sewer line blockages due to root intrusion, grease and/or debris from the service line is prohibited.

Through closed circuit televising and other methods of evaluation of the public sewer system, Metro Water Services (MWS) has determined that...

- ☐ excess water
- ☐ roots
- ☐ grease
- ☐ debris

...are present in your sewer service line impacting the operating condition of the public system. In accordance with Metro Code, you must take action to ensure that your service line is in proper operating condition.

Metro Water Services fully recognizes that you may not have been aware of problems in your service line and that you may not have experienced any service problem. Taking the necessary corrective action to restore your service line to its intended operating condition will protect your interests as well as the publics'.

In order to provide adequate time for you to address these service line problems, MWS will reinvestigate the public main serving your property on or about _____ (sixty (60) days) from the date of this letter. If there is evidence that the condition affecting the public system is not corrected, MWS will issue a thirty day notice that water service to this address will be disconnected until such time as the sewer service line problem(s) are corrected. There will also be additional charges for water service disconnection and reinstatement.

You can find a copy of the "Metro Code" at the Metro Clerk's Office or on the internet at http://www.nashville.gov/mc/. For your convenience, included are the sections that pertain to sewer service line maintenance below.

THE CODE OF THE METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY, TENNESSEE,

15.40.020 Regulation and enforcement--Authority of director.
The director is authorized and directed to promulgate and enforce such rules and regulations as he may deem necessary for the enforcement of this chapter and for the safe, economical and efficient management, control and protection of the government's public sanitary sewerage system.

15.40.050 Maintenance of service connection--Owner's and Department's responsibility.
A. The Owner will own and maintain his sewer service line from the public sewer main to the structure served.
B. If the Owner experiences sewer service interruption as a result of a sewer service line failure and has demonstrated a good faith effort to remedy the problem, the Department shall make any necessary repair on the portion of sewer service line inside the public right-of-way or easement from the main to the boundary of right-of-way or easement. Provided, however, that before the Department will make such repairs, the Owner must provide an excavated clear and open access to the sewer service line at the right-of-way or easement boundary. Residential customers will not be billed for any repair performed by the Department under this Section. Commercial customers shall pay all costs of repair incurred by the Department under this Section and such costs shall be billed on the customer's next bill.

15.40.090 Stormwater--Runoff to sanitary sewers prohibited.
The discharge of stormwater runoff to separate sanitary sewers is prohibited.

If you have questions and wish to speak to a MWS representative, please call (615) 862-4600 and select option 1, option 3.

Maintenance of Sewer Service Connection

SECOND NOTIFICATION

Date:

XXXXX

Scheduled date of water disconnect: XXXXX

Name:

XXXXXXX

Address: XXXXXX

RE: Notice of water service interruption for xxxxx (address)

The Code of the Metropolitan Government and Davidson County, Tennessee requires that owners maintain their service line "in such a condition as to safeguard the property, life and health of others". Specifically this means that excess ground water overloading the public system through joint leaks, sump pumps, roof drain or surface water inlets or sewer line blockages due to root intrusion, grease and/or debris from the service line is prohibited.

Through closed circuit televising and other methods of evaluation of the public sewer system, Metro Water Services (MWS) has determined that...

- ☐ excess water
- ☐ roots
- ☐ grease
- ☐ debris

...continue to be present in your sewer service line impacting the operating condition of the public system.

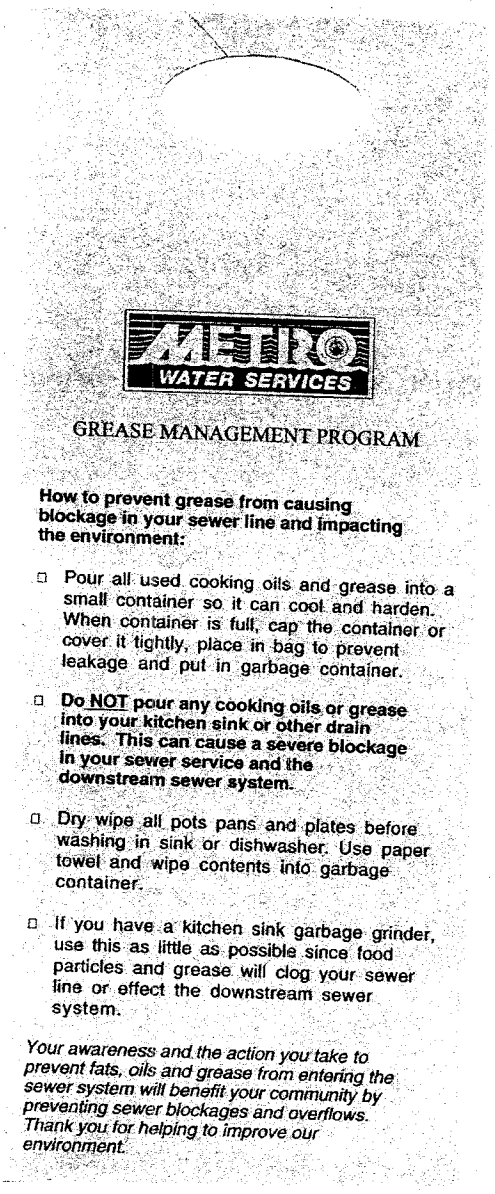
Consistent with the first notification that you were provided approximately sixty (60) days ago, MWS has no choice but to schedule a disconnection of your water service. This disconnection will occur thirty days from the date of this letter. If on a weekend, disconnection will occur on the next business day.

In order to avoid a disconnection of water service and any associated fees, you must present evidence of corrective action taken to remedy the problem with the sewer service line. This evidence could include but is not limited to a paid invoice for corrective action taken through a third party. Upon such notice, MWS will then re-televise the public system to determine sewer service line condition. There will be a charge of this activity and will appear on your next bill. Water service will be restored upon discovery of a safe and functional sewer service connection.

If you have questions and wish to speak to a MWS representative, please call (615) 862-4600 and select option 1, option 3.

4.0 MWS Grease Management Program Door Hanger

This door hanger is left for property owners if there is discovery of grease in the public line serving their property or observed through CTTV coming into the system from the service lateral.



METRO WATER SERVICES

GREASE MANAGEMENT PROGRAM

How to prevent grease from causing blockage in your sewer line and impacting the environment:

- Pour all used cooking oils and grease into a small container so it can cool and harden. When container is full, cap the container or cover it tightly, place in bag to prevent leakage and put in garbage container.
- **Do NOT pour any cooking oils or grease into your kitchen sink or other drain lines. This can cause a severe blockage in your sewer service and the downstream sewer system.**
- Dry wipe all pots pans and plates before washing in sink or dishwasher. Use paper towel and wipe contents into garbage container.
- If you have a kitchen sink garbage grinder, use this as little as possible since food particles and grease will clog your sewer line or effect the downstream sewer system.

Your awareness and the action you take to prevent fats, oils and grease from entering the sewer system will benefit your community by preventing sewer blockages and overflows. Thank you for helping to improve our environment.

Appendix C: Field Manual SORP

Metro Water Services

System Services and Route Services Division

Sewerage Spills and Overflow Incidents

Guidelines & Procedures
Field Manual

GOAL

To reduce or eliminate the public health risks and environmental damage associated with illicit discharges from the public collection system.

METRO WATER SERVICES - SYSTEM SERVICES AND
ROUTE SERVICES DIVISION

Collection System Sewerage Spills and Overflow Incidents Guidelines and Procedures

System Services and Route Services is available 24/7/365 to respond to any public health or environmental problem related to an illicit discharge of sanitary sewage. The following guidelines and procedures address the manner in which these incidences are to be handled by System Services' and Route Services' employees.

Definition of Discharge Point: ***Any point in the public collection system where sewage is discharged on to roadways, public and private property, or directly or indirectly into creeks or rivers.***

GUIDELINES

When notified of an overflow from the public collection system, remember the following:

1) **Containment**
2) **Contact**
3) **Cleanup**

Containment

(a) Upon arriving at the discharge site, immediately proceed with measures to stop the discharge of sewage. If discharge cannot be stopped, notify supervisor for additional equipment/resources as required. Proceed to (b).

(b) Barricade, flag, or hazard tape the affected area to minimize potential contact with the public.

Contact

(a) Contact the SSD Dispatch to report the following information:

- exact location and condition of site
- public or private collection system

- all contractors or construction work observed in area

(b) Document this information, as well as the cause of the blockage (roots, grease, etc.) on the Work Order.

(c) If the public collection or private system overflow is near or in a creek or river, contact the on-duty supervisor. The on-duty supervisor will immediately contact the MWS NPDES division for remediation advice and guidance.

(d) The responding supervisor is also responsible for ensuring that an Overflow Notification Form is completed and faxed to the Division of Water Pollution Control (TDEC) and Metro Stormwater - NPDES Division within 24 hours.

State of Tennessee Water Quality Division

Ann Rochelle

Office Number: *687-7123*

e-mail address: ..... ann.rochelle@state.tn.us

Fax:..... .....Fax: 687-7078

Joey Holland 687-7020

Metro Stormwater - NPDES Division

ATT: Michael Hunt .....Fax: 880-2425

Office Number 880-2420

Cleanup

(1) For inline sewer stoppage (grease, roots, or debris), clear blockage as soon as possible.

(Note: If stoppage cannot be cleared quickly, pump crew shall connect a by-pass line either directly into a tanker truck or into public sanitary sewer until blockage has been cleared.)

(2) Make every effort to contain surface discharge drainage. Call dispatcher for any assistance needed. Sandbag or trench away from catch basins and drainage ditches and creeks or rivers. A construction repair crew with backhoe may be needed in large spills. Make every effort to isolate discharge to the site. If the discharge is in a CSO system, sewage can be washed into the collection system.

(Note: Notify affected property owners as soon as possible of incident and corrective action being taken. See Public Notice section below for more details.)

(3) If possible, manually remove sewerage debris from discharge point and transport to compost lot for processing to landfill. This includes all solids that were discharged from our sewer system. This will decrease the aesthetic impact at the discharge point.

(4) If overflow has entered a creek or river (or has potential to) the on-duty supervisor shall consult with MWS NPDES personnel in order to collaboratively identify the scope of the cleanup effort.

Metro Stormwater - NPDES Division
Michael Hunt 880-2420
Mike Seremet .....533-0334.....Direct Talk #82
Butch Bryant.....566-3865.....Direct Talk# 193

(5) Do not wash down discharge that could drain into nearby catch basins, ditches or creek beds. Note: If spill is directly in creek or drainage bed, remove all sewerage debris from creek bed using a vacuum truck to recover as much as possible. Utilizing input from the TDEC and MWS NPDES Division, an on-site decision will determine if it is appropriate to flush streambed. If the damming of stream channel is required, only sandbagging for containment will be approved and complete removal of sandbags will be required. If in the event of a broken sandbag, all loose sand will be removed from stream channel.

Note: Due to Federal regulations, do not use city water to clean creek bed. Non-chlorinated water can be brought in to use in the event of a large spill. Non-chlorinated water can be obtained at Central, Dry Creek and Whites Creek Wastewater Treatment Plants. The department is in the process of securing Chlorine Diffuser's for available public water use as needed. Never use high-pressure (jet) water for creek or drainage bed cleanup due to potential soil erosion or danger to aquatic life.

(6) If a creek, river or other waterbody has been impacted by sewerage, dissolved oxygen levels should be monitored and observations made to determine if fish or other aquatic life have been killed. Death of fish and aquatic life may not result until several hours or the next day following the discharge into the stream, after oxygen depletion occurs due to breakdown of the sewage through natural process. Monitoring results and any observations made should be included in the report submitted to the Division of Water Pollution Control describing the overflow incident. In the event that fish or other aquatic life have been killed, the Tennessee Division of Water Pollution Control should be notified as soon as possible, but no later than 24 hours following discovery of the incident. Division personnel can be contacted through the **Tennessee Emergency Management Agency (TEMA) at 741-0001** if the fish kill occurs after regular business hours, on holidays, or on weekends.

NOTE: Water samples taken by Metro Water Services or other approved agencies above and below discharge point will determine whether the clean-up is complete or further action is required

(7) Lime and disinfectant may be used around discharge points in isolated grass areas and under homes, if needed, upon agreement of property owner. **Do not use lime or disinfectant in creek or drainage beds**. More extensive property restoration and clean-up on private property should be performed by Metro contractors.

(8) If the discharge point is the result of a sewer segment failure by either natural causes or actions of others, start by-pass pumping to public sanitary sewer as soon as possible. If contractor on site is responsible and cannot start by-pass pumping in a timely manner, call dispatcher for MWS pump crew.

Note: If caused by others, this work can be billed back to the responsible parties. If possible have jet-vacuum truck keep sewerage confined to collection system while this by-pass pumping is being put in place. Take every possible action to confine sewer discharge to site.

(9) Public Notice

Depending on the severity and location of the overflow the following actions will be taken:

- Barricades and signage will be used to protect the public from overflow impacts. Customers with property contiguous or downstream of the overflow location will be contacted directly. This will involve either direct customer contact and/or a Notice of Overflow in the form of a door hanger (see attachment I). Outbound calling may also be used in situations involving more than ten (10) customers or when direct on-site contact is impractical. Information shared will include status of the collection system, health or safety concerns, cause of overflow, corrective action taken, MWS contact information and what the customers can do to prevent future problems (roots from service line, grease, debris, etc). These communication efforts would be coordinated with MWS NPDES Staff.

- The general public will be notified of events if the overflow impacts large common areas or if it reaches water courses with which the public could potentially come in contact. These efforts would be coordinated with MWS NPDES Staff and TDEC as needed. The form of this communication for events such as these would be through the website, outbound calling, local media, or a combination of all.

AIR-RELIEF VALVES ON SEWERAGE FORCE-MAINS DISCHARGE

If the discharge point is the result of a faulty or broken air-relief valve, contact CSC Dispatch. The SSD Maintenance Shop and Route Services assists in the maintenance and repair of these valves. Efforts should be used for:

- **Containment**
- **Contact**
- **Cleanup**

as described above.

SEWER PUMPING STATION DISCHARGE

In the event the sewerage discharge point is from a MWS sewer pumping station, contact the Control Room at Omohundro Water Plant (862-4978) or Direct Talk #200.

CSO REGULATOR MANHOLE DISCHARGE

System Services Division maintains CSO Regulators and in the event of a system failure should be handled as a collection system stoppage. Electronics at all facilities are maintained by Operations. If you are at a CSO Regulator and were not dispatched by Operations, please notify them of your presence to clarify any electronic alarms they may receive for this site.

PRIVATE SYSTEM DISCHARGE

If the sewage discharge is located on a private system, make every effort to bring it to the owner's attention. Inform responsible party of the public health and environmental concerns and that Metro Stormwater - NPDES Division and Metro Public Health will be notified of discharge. If this discharge is causing risk to public health and safety and the owner cannot be contacted, begin effort to correct the situation and notify Metro Claims.

Attachment I

METRO WATER SERVICES
SYSTEM SERVICES DIVISION
1616 THIRD AVE. NORTH
NASHVILLE, TN 37208
(615) 862-4600

Sewer Overflow Notice

This notice is to advise you that Metro Water Service has responded to a sewer overflow in your area. MWS response to overflows is coordinated with Local and State Watershed Management Agencies. Please avoid the affected area and note the following:

Date: _____

Address or general location of overflow:

_____

The overflow was/is:

- ☐ corrected
- ☐ in process of being corrected – you will receive further information
- ☐ continuing and will be corrected asap. You will receive further information.

The overflow was/is:

- ☐ isolated to the area immediately around the manhole
- ☐ extended to a area beyond the manhole area but did not reach any stormwater system
- ☐ extended to an area beyond the manhole and did enter stormwater system

Clean-up of the overflow is:

- ☐ complete
- ☐ in process – you will receive further information.

The overflow was caused by:

- ☐ grit/debris
- ☐ grease buildup
- ☐ roots
- ☐ other _____

OTHER COMMENTS

_____
_____
_____
_____
_____
_____

If you need further assistance, please call Metro Water Services at: 862-4600 Option 1 for English, Option 3 for Emergency Service and reference the following Service Request/Work Order No.

SERVICE REQUEST/WORK ORDER NO:

_____

Sewer Overflow Calculation Spreadsheet – this information is available electronically and is used by personnel reporting overflow information to TDEC on the Overflow Notification Forms and on the Monthly Overflow Report. It calculates the volume in gallons which is then reported in million gallons.

Overflow Volume Calculation Spreadsheet

(Simply enter in the data according to the shape of the overflow. The table will calculate the volume for the Overflow Notification Form)

Shape of Overflow	Diameter (ft)	Length (ft)	Width (FT)	Depth (in)	Area (sf)	Volume (cf)	Gallons (gal)
Square or retangular	n/a				0.00	0.00	0.00
circular		n/a	n/a		0.00	0.00	0.00

Appendix D: On-call List – this list is generated weekly and represents emergency respondent personnel by shift, day and time. This information is used by Dispatch and the Control Room to contact personnel outside normal shift schedules. This list is distributed electronically to MWS personnel and Metro Emergency Management (OEM) for use in the event of emergencies including sewer overflows. (see next page)

4/30/2007 8:57 AM

Weekly On-Call Contacts for Metro Water Services

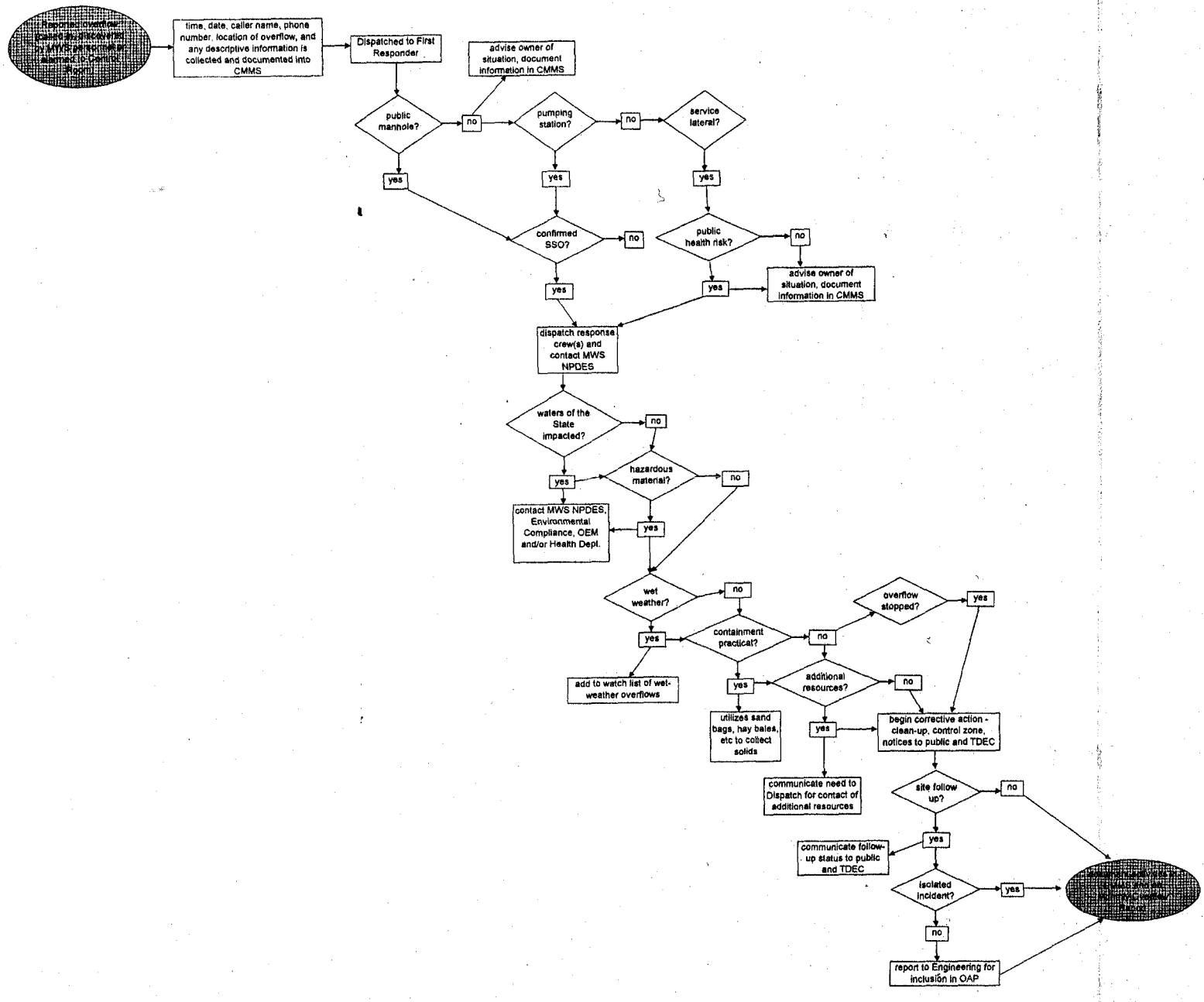
				Week of:	April 30, 2007
	Name	Direct Talk	Cell Phone	Pager	Home Phone
Repair					
1st Contact (On-call)					
Supervisor	Greg Nalls	113	456-9210		746-4508
Leader	Joe Dillard	298		518-9300	650-9812
Backhoe	Deric Brown	76		518-9300	731-4702
Crew	John Hashins	310		518-9300	262-5766
Crew	Bobby Wilson			518-9300	299-5799
Crew	Charles Sharp		944-1503	518-9300	589-6206
2nd Contact (Back-up)					
Supervisor	Eddie Waynick	341	566-4015		299-5752
Leader	Doug Richardson	284	566-3957	518-9898	274-6297
Backhoe	David Bourland	373	364-3470	518-9898	882-0404
Crew	Kwaku Boachie		642-6636	518-9898	361-1266
Crew	Melvin Sublett		478-6928	518-9898	355-6969
Crew				518-9898	
Sewer					
1st Contact (On-call)					
Sewer Crew (Cleaning)					
Leader	Tyrone Jolley	314		518-9888	876-8096
Crew	Charles Wright			518-8888	332-7553
2nd Contact (Back-up)					
Sewer Crew (Cleaning)					
Leader	Les Buckner	105	585-7857	518-8888	202-3371
Crew	Bill Underwood			518-8888	831-9821
CTTV (Televising) Crew	Danny Jones	394	419-4777	929-0232	730-5845
Regulator Crew:					
Primary	Alvin Humphrey	281	566-3954	518-8108	865-9555
Backup	Darryl McKibbens			518-8355	834-7382
Plumbers					
Leader	Donnell Carter		364-8581	363-1982	
Crew	Roger Johnson	425		363-1987	754-2099
Large Meter Crew					
Leader	Roscoe Jones	118	456-9226		227-7011
Crew	David Denham	426	207-9743		385-1869
Special Assistance As Needed by Utility Maintenance					
On Call	Troy Hamilton	72	456-3319	664-0183	931-582-7969
Back Up	John Ward	288	566-3961	664-0082	931-729-5053 or 931-796-4463
Weekend Repair and 1st Response	**6:00 AM -6:00 PM Sat.-Mon.**				
Leader	Billy Raines	114	456-9212	520-2488	356-7780
Engineering Inspections					

5th Av. N. & 10th Av. N Water rehab and Temporary Water Lines					
(See Maps in dispatch)	Jon Sullivan	167	566-3831		
Contract Work	Jeff Duncan	446	335-1622		851-5972
Lay & Deed Project	Larry D. "Skeeter" Barnes	256	566-3929		746-8312
Metro Claims (Legal)					
Mon 7:00am-Mon 7:00am	**Balogun Cobb**			518-8797	
Stores/Warehouse:	**Dennis McCrary**	**352**	566-4353		822-3294
Fire Hydrant & Valve Crew:					
Leader	Michael French	374		363-5240	931-364-5450
Crew	Gerry Stevens			363-1539	366-1136
Tennessee One Call (Utility Locations)					
M-F 3:00 PM -11:00 PM Fred will be out	1st Contact: Fred Hardison	112	456-9214		512-3940
Sun-Thurs 11:00 PM - 7:00 AM James Will Be Out Until The	1st Contact: James Caruthers	271	566-3944		258-3764
M-F 3:00 PM-6:00AM	2nd Contact: Keith Bogle	147	566-0444		889-9505
Sat-Sun 6:00AM-7:00PM	1st Contact: Charles Ferrell	300	566-3974		
Sat-M 7:00AM-7:00PM	2nd Contact: Keith Bogle	147	566-0444		889-9505
Storm Water Issues					
Storm Water Maintenance	Steve Gorham	54	456-7092		
Water Quality	Dale Binder	409	566-4263		
Back-Up	Mike Serement	82	533-0334		
Safety	Joe Estes	137	566-2143		333-2182
Lab:					
On-Call 4/27-5/3	Marty Mast	194	566-3866	518-8391	360-7217
Back-Up 5/4-5/10	Dawn Daman	393	566-5613	518-8393	557-8153
Back up	Hugh Garrison	69	456-3313	664-0656	883-8774
Health Dept. Food					
Sewer Blockage or water cut-off	Jerry Rowland		642-9787		
Fleet Maintenance:					
OFM	Dispatch	Heavy 880-1992	Light 862-5101		
Mon.-Sun Emg.Generator Equip. Fueling Emg. Pumping	Danny McCullough	362	566-4910	518-8263	213-0926
Mon.-Thrus. Emg.Generator Equip. Fueling Emg. Pumping	Willie Hargett	361	566-4909	518-8292	931-364-7121
Fri-Sun Emg. Generator Equip Fueling (Small Service Truck) Emg. Pumping	Louis Jones	360	566-4908		876-4177
	Clyde Smith	64	456-3309	664-0269	474-6954

Public Information Officer	Sonia Harvat	80	533-3607		862-4494
Drug Testing	Ilene Cowden	190	566-3852		
	Joe Estes	137	566-2143	664-0165	
	David Tucker	135	566-2139		
State of Tennessee	Thomas Killion				824-4460
Nashville Field Office	Erich Webber				885-2121
Division of Water Supply	Sherwin Smith				883-3472
System Services Contacts					
	Greg Nalls	113	456-9210		746-4508
	Anthony Waggoner	280	566-3953		885-3875
	James Bradley	270	566-3943		734-0682
	Robby Ervin	424	207-1020		287-9018
	Hal Balthrop	107	456-9204		865-6686
	Charlie Golden	273	566-3946		331-9862
	Ronnie Russell	279	566-3952		868-4729
	Jim Blunkall	268	566-3941		773-2320
	Jim Paulus	171	566-3836		1-615-446-9702
	Lyn Fontana	187	456-9568		297-3769
	Marcus Knight	455	238-4482		501-0683

Appendix E: Sewer Overflow Response Plan Flowchart (next page)

Sewer Overflor Response Plan Flowchart



Appendix F: Standard Operating Procedures for SSO

Action	Responsibilities	References
A First Responder will be dispatched by CSC Dispatch to investigate the overflow.	CSC Dispatcher	SORP Sections 4.2 & 4.3.1
Confirm the overflow is an SSO.	First Responder	SORP Sections 4.2 & 4.3.2
Complete the Sewer Overflow Notification Report to TDEC within 24 hours after confirmation of SSO.	CSCSewer Maintenance Supervisor or designee	SORP Section 4.2
If the SSO involves a force main, contact Route Services to evaluate turning off the station.	First Responder,CSCCDispatcher, Route Services	SORP Sections 3.5 & 4.1
As needed, contain any sanitary sewer overflow using a berm, mats, sandbags, etc.	First Responder/Sewer Maintenance Crew	SORP Sections 4.3.9 & 4.3.10
Block any nearby storm grates or catch basins with sandbags or berms (if necessary)	First Responder/Sewer Maintenance Crew	SORP Section 4.3.9
Install control zone and standard signage around impacted area.	First Responder/Sewer maintenance crew	SORP Sections 4.3.6 & 4.4
Contact Environmental Compliance if a suspicious substance is found.	First Responder/Sewer maintenance crew	SORP Section 4.3.3
Request additional assistance, if necessary, from CSC or radio crews directly to assist with SSO (i.e., repair broken pipe, pump station outage, etc.)	First Responder/Sewer maintenance crew	SORP Sections 4.2
Notify SM Supervisor/CSC of situation status.	First Responder/Sewer maintenance crew	SORP Section 4.3.7
Initiate appropriate repairs, cleaning, vacuuming, etc., as required.	First Responder/Sewer maintenance crew/UGC Maintenance Crew	SORP Section 4.3.11
Place SSO door hanger on residences and/or facilities where inhabitants could be affected by the SSO. If door hangers cannot be used, place a public notice posting(s) in an area notifying the public of the SSO occurrence.	First Responder/Sewer maintenance crew	SORP Section 4.4 & Appendix B
Thoroughly clean site using appropriate manual practices such as rakes, brooms, shovels, etc. and, if needed, mechanical practices such as excavating equipment, vacuums, flushers, aerators, etc.	First Responder/Sewer maintenance crew	SORP Section 4.3.12
Disinfect site by applying lime to the ground within the impacted area and apply deodorizing agents when needed. The use of chlorine must be approved by SM Supervisor.	First Responder/Sewer maintenance crew	SORP Section 4.3.12

Determine volume of SSO and complete MWS Sanitary Sewer Overflow Notification Form and forward to SM Supervisor. Include a system map copy of the area of the occurrence and a copy of the work order.	First Responder/Sewer maintenance crew	SORP Section 4.6 & Appendix C
Forward the Sanitary Sewer Overflow Report to the SM Supervisor as soon as possible or at the end of the workday.	First Responder/Sewer maintenance crew	SORP Section 4.6
If the SSO reaches a stream or body of water: 1. A public notice posting(s) will be required in the immediate area of the SSO. Place an SSO sign(s) along the creek or at location(s) where users of the body of water can be easily notified of the SSO occurrence 2. MWS NPDES will begin any necessary sampling 3. Transport sample to the Lab within 4 hours 4. Contact Lab to obtain results of testing 5. Sampling will continue until samples are determined to not contain fecal coliform bacteria, remove posted signs and notify TDEC (if required).	As assigned by the First Respondent and/or MWS NPDES	SORP Sections 4.3.7 & 4.4
If deemed necessary, contact Public Information Officer and Senior Management for initiation of public notification plan of SSO. Follow procedures as described in the SORP.	Responsible Basin Owner	SORP Section 4.4